Colonial Church Histories.

Diocese of Mackenzie River.

Stanford's Geog.l Estab.t

Colonial Church Histories.

DIOCESE OF MACKENZIE RIVER.

BY RIGHT REVEREND

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BISHOP OF THE DIOCESE.

WITH MAP.

PUBLISHED UNDER THE DIRECTION OF THE TRACT COMMITTEE.

LONDON:
SOCIETY FOR PROMOTING CHRISTIAN KNOWLEDGE,
NORTHUMBERLAND AVENUE, CHARING CROSS, W.C.;
43, QUEEN VICTORIA STREET E.C.;
BRIGHTON: 135, NORTH STREET.
NEW YORK: E. & J. B. YOUNG & CO.
1888.

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CONTENTS.

CHAPTER		PAGE
I.	EARLY EXPLORERS	1
II.	GEOGRAPHICAL DESCRIPTION . . .	15
III.	CHURCH OF ENGLAND MISSIONS . . .	27
IV.	INHABITANTS	39
V.	LANGUAGES	51
VI.	FAUNA AND FLORA	59
VII.	ARCTIC LIFE	69
VIII.	METEOROLOGY	79
IX.	DRESS AND HABITS	90
X.	RESOURCES AND PROSPECTS	100

DIOCESE OF MACKENZIE RIVER.

CHAPTER I.

EARLY EXPLORERS.

THE ecclesiastical history of this diocese is but a short one. It may be allowed, then, to preface it with some account of the progress of discovery in this region, previously to the commencement of missionary enterprise.

The explorers in the region now comprised in the diocese of Mackenzie River have been many and distinguished, so that even their names form a goodly list. The following may be referred to :—Mr. Samuel Hearne (1771), Sir Alexander Mackenzie (1789), Sir John Franklin (1820), and a second voyage in 1826, Admiral Sir George Back and Mr. King in 1833, Messrs. Dease and Simpson (1837 to 1839), Captain Lefroy (1844), Commander Pullen (1849), Sir John Richardson and Dr. Rae (1848), and others.

The narratives of these voyages may be very shortly reviewed.

Mr. Samuel Hearne, of the Hudson's Bay Company's service, starting from Hudson's Bay,

travelled with Chipewyan Indians westward overland as far as the Great Slave Lake, and thence northward to Coppermine River, which he struck within about fifty miles of its mouth. He then returned by a similar route.

The most unpleasant part of Mr. Hearne's story is that the party of Indians with whom he travelled, entirely without his sanction, made an unprovoked attack on a number of Esquimaux encamped on the Coppermine River, and, in the night, barbarously massacred the whole body of men, women, and children, and spoiled their tents. The site of the massacre became known afterwards as the Bloody Falls.

It is remarkable that there is a bird in those parts which the Indians there call the alarm bird, or bird of warning, a sort of owl, which hovers over the heads of strangers, and precedes them in the direction they go. If these birds see other moving objects they flit alternately from one party to the other with screaming noise, so that the Indians place great confidence in the alarm bird, to apprise them of the approach of strangers, or to conduct them to herds of deer or musk oxen.

Mr. Hearne remarks that all the time the Indians lay in ambush, preparatory to the above-mentioned horrid massacre, a large flock of these birds were continually flying about and hovering alternately over the Indian and the Esquimaux tents, making a noise sufficient to wake any man out of the soundest sleep. The Esquimaux, unhappily, have a great

objection to be disturbed from sleep, and will not be awakened—an obstinacy which seems to have cost that band their lives.

In comparing the character of the country and its inhabitants 100 years ago, as detailed by earlier travellers, with the present time, the following remarks occur. First, there appears a great diminution during the past century, in the number of native inhabitants, and still more in the number of wild animals. The decay of the human race here has been much owing to the ravages of small-pox, which is described as having formerly cut off nine-tenths of the inhabitants, having been communicated from the more southern Indians, shortly after the date of the earliest explorations. The diminution of the animals may be attributed in great part to their wasteful and excessive destruction after the introduction of firearms among the Indians.

The cruelty and vice of the earlier natives, as disclosed by Mr. Hearne, who resided among them, are quite enough to have called for a visitation of heaven for their chastisement; and it is pleasant to witness a considerable improvement in the Indian character in later days, especially in regard to the moderating of their habits of cruelty and violence to one another.

The accounts of the domestic habits and customs of the Indians a century since are still a good deal applicable at the present time, though some of their superstitions fall into disuse as they mingle with Europeans. Their implements and utensils

remain much the same, except so far as stone axes and knives, and kettles of roots and dishes of board have since been replaced by metal purchased from European traders.

The narrative of Mr. Hearne is very detailed and graphic, and is only far too true to be agreeable in regard to his description of the native character. No greater contrast could be imagined than between such a history and modern works of fiction about Indian life. The utter absence of all knowledge of, or obedience to, any one of the ten commandments, or rather the glory found in the habitual and delighted breach of every one of them, especially those of the second table, is the melancholy characteristic of the book. The abandonment of the aged, sick, and helpless ones to death; unrestrained plunder and libertinism; wife murder, polygamy, war, and massacre; kidnapping, and worse crimes,—such things form the staple of the description of the natives in Mr. Hearne's book.

In the year 1789 the great Mackenzie River was descended by Sir Alexander Mackenzie. It is hard to overpraise the intrepid courage, cool prudence, and inquiring intelligence of that noble traveller. To that time the large country to the north-west of Great Slave Lake had been wholly unexplored. Sir Alexander Mackenzie, leaving Athabasca Lake in June 1789, by canoe, descended the Slave and Mackenzie Rivers till he met the tidal waters of the Arctic Sea. Thence he returned safely to Athabasca by the same route, before winter of that year.

He may be said to have discovered far more than he saw, for he ascertained, by careful examination of Indians met along the Mackenzie, the existence and course of the Youcon River, more accurately than that river was laid down in the maps fifty years afterwards. For he stated his conviction that the Youcon River debouched in Norton Sound, while there are maps of far later date, and still existing, which place that river as falling into the Arctic Sea, confounding it with the Colville.

Sir Alexander Mackenzie took the greatest pains to conciliate all Indians whom he met, by presents and promises of peaceful trade, and he energetically restrained all attempts at murder or rapine made by the Indians who accompanied him. He did not meet with Esquimaux, and it is little wonder that these and the Mackenzie River Indians were shy of him, as it was then customary for the Athabasca Indians to make annual war expeditions down the Mackenzie for purposes of plunder, massacre, and rapine, as well as for kidnapping of women and slaves.

As the dependence of the expedition for provisions was chiefly on their guns and fishing-nets, and on the Indian hunters who accompanied them, considerable delay was occasioned, their success was precarious, and often endangered by scarcity. Under the care of a gracious Providence all returned safely, without casualty or mishap. A foundation was thus laid for the peaceable prosecution of the fur trade in these regions, which has since been carried on successfully for a century.

As in the case of Mr. Hearne's narrative, so that of Sir A. Mackenzie leads to the observation how much both men and animals have since diminished in that region. Moreover it was then a country of war, and has since been one of peace. For this result the policy and success of the Hudson's Bay Company deserve much credit, and make it worth while to consider how far the pursuit of useful trade should be credited as a handmaid to the gospel in spreading the peace of Christ's kingdom.

The next expedition was conducted in 1820 by Mr. afterwards Sir John Franklin, accompanied by Messrs. Back, Hood, and Dr., afterwards Sir John Richardson.

The expedititon proceeded first from York Factory to Athabasca and Great Slave Lake. The winter of 1820 was spent at Fort Enterprise, situate at the head of Yellowknife River, which falls into a bay at the north-western side of Great Slave Lake. Thence the following spring the expedition proceeded first over land and then by boat to the mouth of the Coppermine River. But even to weather the first winter was a matter of much difficulty, as it was a time of famine among the Indians, many of whom were starving at no great distance from the wintering place of the expedition.

It was thought needful that the expedition to the Arctic Sea coast should consist of not less than twenty persons, for fear of a collision with the Esquimaux, of whose treachery many warnings were received. From the first the men of the expe-

dition were overloaded with heavy packs, including instruments for surveying, and tents, &c., besides provisions.

The descent of the Coppermine River was not managed without much peril and delay, it being full of falls and rapids. The sea being reached, the course was continued along shore to the eastward, but not without much impediment from ice. A civilised Esquimaux from Hudson's Bay accompanied the expedition as interpreter, who succeeded in having communication with a small party of the coast Esquimaux. He assured these of the peaceable intentions of the voyaging party. The natives could not, however, be persuaded to approach the Europeans. The expedition having reached as far to the eastward as Bathurst Inlet, were warned by the lateness of the season and the exhaustion of their provisions to return.

After returning westward as far as Arctic Sound the sea travelling was abandoned, and an effort made to cross the country in a direct line to Fort Enterprise, to winter there again. This, however, proved one of the most woeful journeys ever undertaken by men. Provisions failed; and the men, hungry and frost-bitten, fainted under their loads. At last the party was divided. Dr. Richardson and those with him subsisted for about six weeks on the lichen growing on the rocks, known as "tripe des roches," together with a drink known as swamp-tea, made from a country herb.

At last treachery and murder assailed the band.

A treacherous Iroquois Indian shot one of the officers, Lieutenant Hood, to satisfy on his flesh the cravings of hunger; and after threatening the other officers, he was himself shot by them for self-protection. A diminished party at length reached Fort Enterprise only to find the post deserted and without provisions. The waste heaps were searched for rotting bones and skins thrown off the spring before, and at their extremity the survivors were rescued when too weak to rise by the arrival of friendly Indians with provisions. Dr. Rae also afterwards soon joined the party, and their sufferings were ended.

In 1826 Sir John Franklin again descended the Mackenzie River in boats, and explored the sea-coast to the westward as far as about half-way to Point Barrow, whence returning, he mounted the Mackenzie again, and wintered at Great Bear Lake. The following summer he reached England from thence by way of Canada.

In 1833 an expedition was undertaken under the command of Captain Back, accompanied by Mr. King as naturalist, to descend Great Fish River (afterwards called also Back River) to the Arctic coast with the view of offering succour to Sir John Ross, then engaged in Arctic survey. Captain Back's expedition was, however, pursued by intelligence of the safe return of Sir John Ross, so that his voyage was confined afterwards to geographical interest.

Proceeding by way of Montreal and Canada, and

thence to Lakes Superior and Winnipeg by the north-west canoe route, Captain Back pursued the usual course taken by the traders and Arctic voyagers as far as Great Slave Lake, and wintered at Fort Reliance, situate on a bay at the north-eastern extremity of that lake.

This winter was marked by great suffering and famine among the Indians, many of whom perished of want; and it is a remarkable circumstance that the earlier narratives of travels in this northern land tell of much more serious and constant starvation among the Indians formerly than now, even though the wild animals have in later days grievously diminished. The fact may be explained by the diminishing numbers of the natives, and by the survivors being supplied with ammunition and fire-arms, as well as with twine for fishing nets, by the European traders.

After the necessary boats had been built, the expedition descended in these the Great Fish River in the summer of 1834. The river was found impeded by rapids, but the coast was reached without mishap. The ice along shore, however, seemed to preclude the successful exploration of the coast, and the further prosecution of the voyage was abandoned from that point, the expedition party returning by the way they came.

In 1837 Messrs. Dease and Simpson again descended the Mackenzie, and explored the Arctic coast to the westward of that river much further than Sir John Franklin had previously reached.

Messrs. Dease and Simpson proceeded overland from Manitoba to Athabasca in winter, and thence descended by boat with several canoes to the Mackenzie, and thence by a like route with that of Sir A. Mackenzie to the Arctic Sea. Turning westward, the expedition soon reached along the coast as far as Return Reef, the extremity of Sir John Franklin's voyage in 1826. Proceeding forward thence with caution and despatch, the boat reached the neighbourhood of Point Barrow, encountering several parties of Esquimaux, whom they tried to conciliate with presents; but they were exposed to some danger from the treachery of these natives. No great discoveries were made along the coast, which proved shallow, much indented, and somewhat ice-hampered.

From Point Barrow the expedition returned to the mouth of the Mackenzie River, which they mounted as far as Bear River, and proceeded thence to Great Bear Lake, which they crossed. They reached their wintering ground at Fort Confidence, in the north-east extremity of Great Bear Lake, on September 25, 1837, after being reinforced by the arrival of a boat with winter supplies from the south. The ensuing winter at Fort Confidence seems to have been passed by them pleasantly and without scarcity of provisions, either for the expedition party or the neighbouring Indians. In June, 1838, Messrs. Dease and Simpson crossed overland to the Coppermine River, and thence descended to the Arctic Sea. They hauled the boat overland

from Dease River, which falls into Great Bear Lake, to the Coppermine, over a portage of six miles. Descending the Coppermine with the spring freshet, the expedition had some peril in passing the turbulent rapids. At the mouth of the river some delay was caused by ice; but when this cleared off, the exploration of the coast to the eastward was proceeded with. Though Esquimaux were seen they proved shy of approach; but the boats made good their course along the coast a good deal further than Sir John Franklin had previously attained. The return was made from W. long. 106°, opposite the south coast of Victoria land.

The return voyage to the former winter quarters at Fort Confidence was effected without mishap by September 14, 1838, and another year's supply of provisions was there received from Mackenzie River. The following winter saw considerable distress among the neighbouring Indians, who were relieved as far as means admitted by the party at Fort Confidence.

Next year (1839) another summer excursion was made along the Arctic coast to the eastward, in the same direction as before; and, the season being more favourable, a point much further to the eastward was reached. In fact, the point abutting on Great Fish River, which had been visited by Messrs. Back and King in 1834, was touched. Some Esquimaux were interviewed, but no great information obtained from them. From the mouth of Great Fish River, south of Boothia Felix, this

enterprising party of explorers turned once more westward. Favoured by fine weather and a late fall, they again reached the Coppermine, and, ascending it, regained Fort Confidence. Passing this establishment and re-crossing Great Bear Lake, the expedition was enabled to gain Fort Simpson in time to winter there.

Mr. Simpson, however, leaving Fort Simpson in December, 1839, journeyed in winter on snow-shoes to Manitoba, a distance of 1,800 miles. Manitoba he reached in February, and proceeded thence towards Canada in hopes of organising another Arctic expedition, which was indeed sanctioned by the Hudson's Bay Company. Mr. Simpson met his death on the road to St. Paul's, Minnesota, apparently through some treachery of his native companions; but the mystery attending this has never been cleared up. Any further prosecution of Arctic research was, consequently, for the time abandoned.

The last Government exploring expedition conducted in this direction was the Arctic Overland Search Expedition for Sir John Franklin, under the charge of Sir John Richardson, in 1848. Sir John descended the Mackenzie River and explored the Arctic coast, thence to the eastward toward the Coppermine River, wintering at Fort Confidence. He penned and published, in 1852, a very interesting narrative of his voyage, with a full list of the flora of the country; but the work is now, unfortunately, out of print, as well as the narratives of previous expeditions. So great has been the

perseverance and endeavour shown in the various Arctic expeditions that it seems a pity their records should perish. Copies of the printed volumes narrating them may probably be found preserved at the Hudson's Bay House, London.

It may be added that in another overland journey to explore the western shores of Boothia Felix in 1849, Dr. Rae obtained from the neighbouring Esquimaux information of the loss of Franklin's crew.

In 1849 Commander Pullen, exploring the Arctic coast from the westward by way of Behring's Straits, left his ship at Point Barrow, and proceeded in boats to the mouth of Mackenzie River, which he mounted as far as Fort Simpson, where he wintered. His boats' crews were wintered in part at Great Bear Lake, and in part at Great Slave Lake, and all returned to England the next season by way of Canada.

In the spring of 1844 Captain Lefroy was occupied, under Government auspices, in conducting magnetic observations at Fort Simpson.

The exploration of the country to the west of the Rocky Mountains, included within the limits of the Mackenzie River Diocese, has been conducted by officers of the Hudson's Bay Company in the course of their trading operations, especially by Mr. Campbell, formerly in charge of Fort Selkirk, on the Upper Youcon. Mr. John McDougall has been lately engaged in such an exploring trip in that country in the interest of the fur trade.

The islands of the Arctic Ocean are not con-

sidered to form part of the Mackenzie River Diocese. No reference is therefore here made to the various Arctic and Polar voyages by sea, which have mapped out the Archipelago fringing the northern shores of the American continent. It may be mentioned, however, that the sea along the coast to the east and west of the Mackenzie was explored by Commander McClure in H.M.S. *Investigator* in 1850.

The above inadequate sketch of the contents of above a dozen printed volumes of large size, besides unpublished narratives, may suffice to show how much there is that has been known, and might yet be told, about a region that is generally considered untraversed and without a history.

Captain Dawson, of the Royal Artillery, passed the winter of 1882 at Fort Rae, Great Slave Lake, in charge of a branch of the Circumpolar Expedition, under Government auspices, for purposes of magnetic observation. It is said that the winter temperature registered at Fort Rae was, with one exception, the lowest recorded at any of the Circumpolar stations.

CHAPTER II.

GEOGRAPHICAL DESCRIPTION.

THE Diocese of Mackenzie River is considered to extend from 100° to 141° W. longitude, and from 60° to 70° N. latitude. It contains therefore about 800,000 square miles.

It is bounded on the North by the Arctic Ocean; on the East by the District of Keewatin and Diocese of Moosonee; on the South by the District of Athabasca and the Province of British Columbia, or ecclesiastically by the Diocese of Athabasca and New Caledonia; and on the West by the United States Territory of Alaska, which has not yet been formed into a diocese.

The great Mackenzie River, which forms the chief feature of this diocese, is the longest in the British dominions, being, from its source to its mouth, upwards of 3,000 miles long. It bears the name of Mackenzie River only after passing through Great Slave Lake, whence its course to the sea is about 1,200 miles. It averages about a mile in breadth, with a swift current running about three to four miles an hour. From about 150 miles above Great Slave Lake to the sea there is no great obstruction to the navigation, the few rapids being inconsiderable. In the upper part of its stream it is called by the

names of the Athabasca and Slave River, but the former of these is wholly, and the latter partly, outside the limits of Mackenzie River Diocese.

The banks of the Mackenzie River are mostly high and clothed with pines. The shores are stony, except in reaches where soil is being cut from muddy banks by the encroaching water. Islands occur at intervals in the course of the stream. The chief features of interest along the river occur where the mountains or jutting crags border the channel. There are first the Nahany mountains (about lat. 63°), to avoid which the river takes a sudden bend to the north. Next is noticed the bold precipice known as the Hill by the river-side, a sheer cliff which drops into the water on the right bank of the stream. About 150 miles below this is Bear Rock, an imposing headland immediately below Fort Norman. In the same vicinity are seen constant natural fires burning on the river banks, and fed by underground coal or mineral pitch. These have been on fire for at least a century, in fact, ever since the discovery of the river.

These fires were fully described by Sir John Richardson, who considered that extensive coal-beds lay there.

The matter will, doubtless, be further investigated by the Canadian Government Surveyors, shortly expected in Mackenzie River.

Such fires are not infrequent in other parts of the country, especially in Upper Peace River, on a stream called from them Smoky River.

Petroleum or rock oil springs are also found on Great Slave Lake and Athabasca River, but will not pay for working, so far from civilisation.

Just above the Arctic Circle, in lat. 67° 30°, the Mackenzie River narrows into a gorge or cañon, between high perpendicular cliffs, known as the Ramparts. These cliffs are fantastically scarped by nature into a semblance of towers and turrets, and present a pleasing aspect. The gorge is about ten miles long, and seems to form a stupendous portal into the Arctic world. Immediately beyond these cliffs is situate Fort Good Hope. Below this point the river sometimes expands into the appearance of a lake, and at other times narrows, when hemmed in by rocks, till the single stream reaches Point Separation, about lat. 68°. From thence the river divides into numerous channels, which widely expand as they approach the sea, till at the coast the delta of the river measures probably about fifty miles across.

The only usual residents in the Mackenzie River Diocese, besides the native Indians and Esquimaux and the missionaries, are the officers and *employés* of the Hudson's Bay Company, who are engaged in the fur trade. For the purposes of this commercial undertaking twelve trading posts in the diocese are occupied which are mostly called Forts, though of late years entirely destitute of defences. These trading posts consist each of about half a dozen log buildings, used as residences for the clerk in charge and *employés*, and for fur store and trading shop. The

posts are situate from 100 to 300 miles apart, and are mostly along the courses of the rivers and lakes. About 100 families of Indians, more or less, trade at each post. These live in their leather lodges or tents, and hunt the surrounding country for provisions and furs, with which they trade at the post nearest to them about twice in the year. They generally, in visiting the post, remain only a couple of nights, except in the spring time, when they often bring their families and tents, and remain encamped in the neighbourhood of the post for some weeks.

In early days of the trade, when spirits were dealt out to the Indians, these visits were scenes of riot and debauchery; but for many years the trade in intoxicating liquors has been abandoned, and the Indians are now free from all turbulence in their visits to the trading establishments.

The situation of the trading posts is as follows:— On Great Slave Lake are two forts named Rae and Resolution, placed on the north and south sides of the lake respectively. On the Mackenzie River are five posts. Fort Providence is about thirty miles from Great Slave Lake, adjoining which post are the head-quarters of the French Roman Catholic Mission. Fort Simpson, situate about 150 miles further down the river, combines the head-quarters of the fur trade, and of the Church of England Missions. Fort Wrigley is about 100 miles further north, and about 200 miles beyond this is Fort Norman, in the neighbourhood of Great Bear Lake. Beyond this again is the most northern trading post on the Mackenzie

River, namely, Fort Good Hope, situate almost precisely at the Arctic Circle.

Three trading posts have their position within the Arctic Circle, namely, one on Peel River for trading with Loucheux Indians and Esquimaux; one, named La Pierre's House, on Rat River; and the Rampart House on Porcupine River. The remaining trading posts are two lying towards the south of the diocese, and situate on the Liard River. These are named Forts Liard and Nelson.

In attempting a succinct view of the natural features of the diocese at large, it may be stated generally that its northern border, consisting of the country within about 100 miles of the Arctic coast, is known as the "Barren Lands," from its being quite denuded of trees by the blasts of the frozen ocean. To the south of this belt the whole country is generally clothed with pines, except so far as it is intersected by lakes and small marshes. The lakes are of every dimension, and so numerous that in scanning the country from a height you will sometimes deem the surface to be more water than land. The soil among the pine-trees is generally covered with a yellowish moss, which forms the natural food of the reindeer, and a more succulent moss generally occupies the marshes, though these and the small lakes are often fringed with grass, which, near the trading posts, is mown for the cattle.

The lakes are mostly well stocked with fish, and the woods are traversed by the migratory reindeer, and are the abode of moose deer and red deer. The

mountains are the homes of rock goats and a few wild sheep. The mossy dells and open spaces are sprinkled in the autumn season with small wild berries of various kinds, and in spring and autumn the passing flocks of wild ducks, geese, swans, and cranes form the attraction of the sportsman.

The chief and almost the sole occupation of the native Indians is hunting or fishing, and of the white residents voyaging and trading. The rivers and lakes form the chief highways through the country, for except in winter with sledges the woods are hardly passable.

The most attractive geographical feature in the diocese is the waterfall in Hay River, which stream runs into Great Slave Lake on its southern side. The falls are situate about 100 miles from the mouth of the river, and are very imposing and picturesque. The principal or unbroken fall may be about 300 feet high and 300 yards wide. An amber tinge in the water, owing to the hay swamps in which the river rises, gives to the waterfall the appearance of auburn tresses. There is a second broken fall of about 100 feet two miles further down the river. But few Europeans have visited this cascade, which has received the name of the Alexandra Falls. If better known it would probably be noted as one of the beauties of the Continent. The cascade is entirely closed by ice in winter. The river is first frozen above and below the falls, and the water and spray falling on the ice below, raises at last a perpendicular sheet or column of ice, which, mounting

higher and higher, at last completely encloses the cascade as in a drapery and unites with the ice above.

The northern part of Great Slave Lake is studded with a thousand rocky islets, forming a picturesque and attractive scene. The dark pines cling to the rocks, and are reflected in the pellucid lake.

On the banks of the Liard River the pine forests are diversified with poplar, as is the case also to the west of the Rocky Mountains, even as far north as the Arctic Circle, for a degree of latitude westward seems to moderate the severity of the climate almost as much as a degree southward. The banks of the Upper Youcon are flowery in the springtime, and the face of nature there seems to wear a softer aspect than on the east of the great mountain range.

Regarding the mineral productions of the country, a large quantity of native iron ore is exposed on the Upper Youcon, and gold has also been lately found on that river. Coal exists on the Mackenzie near Fort Norman, and sulphur is found abundantly on one part of the south coast of Great Slave Lake. Salt is plentiful on the Slave River, and also on the Mackenzie. Coal oil exists in Great Slave Lake, and alum is found on the Youcon. Other minerals may await further research.

The Rocky Mountains run through the diocese quite up to the Arctic coast; but they are of no great elevation, nor does the snow remain on them all summer, even within the Arctic Circle. The constant rays of the unsetting sun in the Arctic regions seem to have more power in melting ice and

snow than even a tropical sun that is absent for twelve hours out of the twenty-four. So benign are the compensating arrangements of a watchful Providence. It has, indeed, been said, by those who have experienced both, that the heat of the Arctic summer sun is more scorching than that of the tropics. A coast mountain range borders the Arctic Sea to the westward of the Mackenzie River as far as Point Barrow. This may, perhaps, be considered as a continuation of the Rockies.

The Arctic coast has a bleak and weird aspect, as might be expected. The first sensation of walking on the smooth ice off the shore of the frozen ocean is something akin to a feeling of having caught a lion asleep. The Mackenzie River brings down a large quantity of drift wood, and the coast traveller is dependent on this for making his camp fire. As soon as the traveller leaves the coast he is almost helpless in respect to kindling a fire till he reaches the pine-clad country. A clump of green willows in some sheltered dell, or a few stunted pines along the banks of a river, are his only hope.

Arctic travelling in the mountains is at times severe. Not that the cold is more severe at a higher elevation, for the contrary is the case; but because the blinding snow-storm urged by the icy blast freezes the voyager's face and seals up his eyes by congealing their exuding moisture. He is thankful if some jutting crag or steep gully affording a morsel of fuel offers him a temporary refuge from the raging tempest.

The breaking up of the winter ice of the Mackenzie River in springtime is often an imposing spectacle. The river freezes in winter to a depth of six or eight feet of ice. It thaws first to the southward, and the rush of the spring freshet breaks up the ice of the northern part of the river while this is yet in a solid state. Should the ice become blocked in its drifting, the current of the swollen river may be banked back till the water is raised from 50 to 100 feet, and floods the banks. Large masses of ice may then be carried far into the woods, the banks may be much scarped and denuded, and quantities of trees torn down by the force of the ice-bearing current. Piles of ice fifty feet high often remain for weeks along the shore after the river is open, and islands and headlands are sometimes overswept and bared by the frozen torrent.

In the autumn the river begins to drift with ice about October 20, and continues drifting for a month before it sets fast. It continues frozen from the end of November to the middle of May, or nearly six months. By the end of May the river is clear of ice unless in the separated channels near the sea, where it may continue clogged with drift-ice till the middle of June.

The Esquimaux of the coast when travelling up the river in the springtime take both their sleds and their skin boats along with them. When they find open water they place the sleds in the boats, and when blocked by ice they place the boats on the sleds, and thus proceed by either mode of transit.

One noticeable feature of the country is the burnt wood. From various causes fires are apt to run through the forests in the drought of summer, and these reduce the pine-trees to bare and blackened poles. In a few years after such a fire an undergrowth springs up, and soon young saplings begin to replace the timber trees that have been destroyed. The charred poles, however, of the consumed forest remain standing for many years. Such a burning of the forests will often change the course of the migratory reindeer, and perhaps leave a country hungry that has been rich in provisions. The spectacle of a blazing forest when one pine-tree after another flares up in sparkling splendour, is a sight of startling magnificence.

The annual supplies of European trading goods carried into Mackenzie River every summer from outside, consist of about sixty to eighty tons of miscellaneous articles, principally ammunition, tobacco, clothing, flour, tea, groceries, and utensils. This has to be divided among all the inhabitants, and forms their only dependence, beyond the produce of the country, which is almost confined to meat, fish, and leather, besides the exported furs.

The only returns made in the way of export for the incoming supplies are the furs, which are sent out each summer to the weight of about fifteen tons. The value of these is, of course, calculated to exceed that of the goods imported, or there would be no success in the commercial venture. A small steamer

having been placed on the Mackenzie River for the first time in 1886, it is likely that the imports of flour and other conveniences may somewhat increase. Should the gold mines prove lucrative that are being opened on the western borders of the diocese it is likely that communication may be increased with the Pacific coast.

At present the route to Mackenzie River is by railway from the eastern coast of the Continent, through Canada or the United States to Manitoba, and thence by Canadian Pacific Railway to Calgary, near the Rocky Mountains. From that point the journey is continued by mail-cart, or wagon, across the prairies in a northerly direction to Edmonton, on the north branch of the Sascachewan River, about six days' travel, and thence further north, about 100 miles, to Athabasca landing, the head of the navigation on the Athabasca River. From this point the voyage is resumed by boat through a river not without difficulty of navigation, owing to its turbulent rapids. A steamer is met lower down the Athabasca River, at its junction with the Clear Water River, from whence the navigation is less impeded. The Athabasca steamer connects at Fort Smith on Slave River with another steamer bound for the Mackenzie.

There is thus now steam travelling from England to Mackenzie River, with only one interval of about 600 miles, or rather more than a fortnight's travel, which is bridged by wagon and boat. Starting from England

on 1st June, about three months' travel, including stoppages, ought to land the traveller in Mackenzie River.

This break in the steam communication is likely to be ere long much reduced in length, by a branch railroad to Edmonton, and a steamboat from Athabasca landing.

CHAPTER III.

CHURCH OF ENGLAND MISSIONS.

CHURCH OF ENGLAND Missions were begun in the country now forming the Diocese of Mackenzie River, in 1858. Archdeacon Hunter was the first Church of England Missionary who reached Mackenzie River, but on a visit, spending only one winter there. He visited Forts Liard and Good Hope, and baptised several resident whites and Indians. He made arrangements also for the permanent occupation of the country in the Missionary interest.

In the following year Mr., afterwards Archdeacon, Kirkby, arrived in Mackenzie River, where he laboured zealously for ten years. He printed several primers in the Indian language, erected a handsome church and substantial Mission house at Fort Simpson, and collected a congregation there of whites and Indians, to whom he faithfully ministered. He was unremitting in his attention to the spiritual needs of the *employés* of the Fur Company. Every summer and often in winter he voyaged to the other trading posts in the district, and, from his genial disposition, he gained everywhere a welcome. He made two trips across the Rocky Mountains to the extreme north-western limit of the district at Fort Youcon, and he found there even more success among the Indians

than on the Mackenzie. Though each of his visits to Fort Youcon lasted only about a fortnight, yet these sufficed to induce the Indian tribes there thoroughly to abandon their heathenism, and joyfully to accept instruction in the Gospel.

In 1862 the Rev. Robert, afterwards Archdeacon, MacDonald, was sent to the assistance of the Rev. William Kirkby. He proceeded at once to the Youcon, to take charge of the promising Mission work there, and, under his auspices, the converts multiplied and the Mission sphere widened. The Ven. Dr. MacDonald remained an active and assiduous worker for ten years, and he then took a furlough in England, after which he returned to his labours. By his exertions the entire Testament and Prayer Book, with Psalms and numerous Hymns have been translated and printed in the Tukudh tongue, as also a primer in the language of the tribes on the Lower Youcon River.

Except the Testament printed by the Bible Society, these works have been almost wholly printed and brought out at the pains and expense of the venerable Society for Promoting Christian Knowledge.

In 1865 information had reached England, which happily proved groundless, that the Rev. R. MacDonald had fallen into a decline, and was obliged to leave his work, and that Romish priests were in readiness to succeed to it. Upon this intelligence, the Rev. W. C. Bompas was despatched as his intended successor. Mr. Bompas left England July 1, 1865, and reached Fort Simpson in Mackenzie

River on Christmas morning of the same year. He there found the news of the Rev. R. MacDonald's retirement to have been premature, and consequently took up work in Athabasca District and on Peace River for a time, after first visiting and spending one winter on Great Bear and Great Slave Lakes.

On the departure of the Rev. W. W. Kirkby from the district in 1868, Mr. Bompas returned to Mackenzie River, and visited Fort Youcon, spending one winter at Peel River, and paying a visit for six weeks in spring to the Esquimaux at the mouth of the Mackenzie.

Other Missionaries have more recently sustained the work in the same field. The Rev. W. D. Reeve, afterwards Archdeacon Reeve, succeeded to the charge of the Mission at Fort Simpson after Mr. Kirkby's departure. The Rev. W. D. Reeve laboured there for ten years, and then after taking furlough in England, removed to Athabasca.

The Rev. W. D. Reeve was succeeded at Fort Simpson by the Rev. W. Spendlove, and at the same time the Rev. V. C. Sim proceeded to assist in the important and interesting work on the Youcon. The latter Missionary, after three years of devoted and self-denying labour, succumbed to the severity of the climate and his exertions, as well as scarcity of supplies, and died at his post in 1884.

The Revs. Messrs. Garton, Wallis, Ellington, and D. N. Kirkby (the last a son of Archdeacon Kirkby), have been the latest recruits in this pioneer Missionary army.

It may be worth while to notice shortly in detail the several Mission stations. Those among the Tenni tribes, or Mackenzie River Indians, are first; Fort Simpson, the earliest station and head-quarters of the Mission. This place being the depôt for the trade of the country, forms also the point of distribution of Mission supplies. It is a post that has been much contested with the Protestants by the Romish priests, and the result is, as in other such cases, that the Indians have some of them become only too indifferent to either religion. We can, however, wait confidently for the season of the truth's triumph.

The station that was next established is that at Fort Norman, in the neighbourhood of Great Bear Lake. At this station is a small church and Mission house, and the Indians are regular in their attendance at divine service, and interested in the instruction given them. Another station exists between Forts Simpson and Norman at Fort Wrigley, where also the Indians have received a good deal of instruction, though no Missionary has yet been permanently fixed there, but the post has been visited from the neighbouring stations.

Of these a great part of the expense has been generously provided by the Society for Promoting Christian Knowledge.

A Mission House has, however, been lately erected, and a Native Catechist is now in charge there.

On Great Slave Lake are two Mission stations, namely, at Forts Rae and Resolution, which are

worked together. The Indians are more numerous at Fort Rae than at other posts, and are of a simple-minded character.

Another Mission has been entered upon on the Liard River, but has not yet been long occupied.

In the Tukudh country the chief station is situate on Peel River, where both Indians and Esquimaux are instructed. The other stations of the Tukudh Missions are on the west side of the Rocky Mountains, one at La Pierre's house on Rat River, and the other at Rampart House on Porcupine River. The Indian converts at all the stations are zealous and affectionate. Churches are erected, though not yet wholly completed, at Peel River and Rampart House.

Further work is also commencing in connexion with these Missions on the Upper Youcon River.

The whole of the Missions of the diocese have been hitherto supported from the funds of the Church Missionary Society, with some liberal assistance for Church building and other objects from the Society for Promoting Christian Knowledge, and a small but increasing contribution from the Canadian Church.

The contributions of the Society for Promoting Christian Knowledge towards Church Building in the diocese have already amounted to £1,000, besides numerous grants of Service books and other Bibles, Prayer-books, Hymn-books, School-books, and Lending Libraries.

The same Society has also kindly offered liberal

grants for the expense of training Native Catechists in the Missions.

The ecclesiastical development has been as follows:—The first diocese established in 1849 to the west of Canada, namely, the original diocese of Rupert's Land, comprised the provinces of Manitoba and British Columbia, and the territories of Keewatin and the North-west. This original diocese was first reduced by the separation of the diocese of British Columbia (since subdivided), and the remainder was in 1874 divided into four, of which the most westerly, called Athabasca, comprised the districts of Peace River, Athabasca, and Mackenzie River. In 1884 the districts of Peace River and Athabasca were again separated to form exclusively the diocese of Athabasca, while the extreme North-west was assigned as the diocese of Mackenzie River. For its extent of territory this diocese would again bear subdivision, but the smallness of the population may forbid this.

The Tukudh Missions, however, which are distant about 1,000 miles from those on the Mackenzie River, are formed into a separate archdeaconry under the name of the archdeaconry of the Youcon. A constitution has been framed for the diocese, and quadrennial synods have been held. Representatives of the diocese are appointed to attend the meetings of the Provincial Synod of Rupert's Land.

It need hardly be said that the Mission work in so remote and isolated a field is often discouraging, and needs much faith and perseverance, and the exercise of self-denial. The climate is severe, the

provisions scarce, and supplies uncertain. A calm trust in Providence, however, with a cheerful and prayerful temper, are weapons of defence for every time of need; and Africa with its fatal malaria, or India with its enervating heat, form much worse homes than the North with its healthful and bracing frost, which with due caution will be found to invigorate and even exhilarate both mind and body. The natives are quiet and submissive, the residents friendly, and the work less overwhelming than that in more populous lands, so that leisure may be found in the long winters for reading and study.

A history of this diocese to the present time gives but small help to conjecture its course in the future. The country has been hitherto cut off from the civilised world; but now that steam has reached it a connexion may be said to be already established. When once brought into union with the progress of the age, and the bonds of religion are the strongest link, there is no reason why life in Mackenzie River should be so far behind that of other countries. A Government mail is another link of connexion that is much needed, and it is hoped that this may be supplied.

In the Mission work it need hardly be said that much still remains to be done. The first necessity is the founding of a diocesan school, for any educational system in the diocese is still in the future. The Missionaries themselves have hitherto held Sunday and day-school at their several stations, and this often to the embarrassing of more strictly

evangelising work. Of late there has been no schoolmaster in the diocese beside the Missionaries. And yet education is here the main hope of Missionary success, for the minds of the natives need to be trained and enlarged by education to appreciate better the spiritual truths of the Gospel.

In connexion with the diocesan school it appears very desirable to set on foot an industrial farm for the purpose of encouraging the Indians to agricultural pursuits by setting an example of it, and training some of the youths to this work. It seems very desirable that in such a wild Indian country as this, Christianity should not be presented to the natives in separation from some of the blessings which it usually brings in its train, in regard to a more civilised and comfortable and less precarious earthly existence. In Manitoba the Missionary success realised appears greatly owing to the efforts made to encourage the Indians to settle and farm, at the same time that they have been indoctrinated with the truths of the Gospel.

Sir Alexander Mackenzie, in speaking of the total failure of the Missions that were undertaken in the country between Canada and Manitoba one hundred years since (but these were Romish Missions), uses the following remarkable expressions:—

"The cause of this failure must be attributed to a want of due consideration in the mode employed by the Missionaries to propagate the religion of which they were the zealous ministers. They habituated themselves to the savage life and natu-

ralised themselves to the savage manners, and by thus becoming dependent, as it were, on the natives, they acquired their contempt rather than their veneration. If they had been as well acquainted with human nature as they were with the articles of their faith, they would have known that the uncultivated mind of an Indian must be disposed by much preparatory method and instruction to receive the revealed truths of Christianity, to act under its sanctions, and be impelled to good by the hope of its reward, or turned from evil by the fear of its punishment. They should have begun their work by teaching some of those useful arts which are the inlets of knowledge, and lead the mind by degrees to objects of higher contemplation. Agriculture, so formed to fix and combine society, and so preparatory to objects of superior consideration, should have been the first thing introduced among a savage people.

"It attaches the wandering tribe to that spot where it adds so much to their comfort, while it gives them a sense of property and of lasting possession, instead of the uncertain hopes of the chase and the fugitive produce of uncultivated wilds. Such were the means by which the forests of Paraguay were converted into a scene of abundant civilisation, and its savage inhabitants introduced to all the advantages of civilised life."

Additional churches and school buildings are, of course, needed to consolidate the Mission work, and for the erection of these a Mission carpenter

needs to be brought to the diocese, for it is nearly impossible to obtain labour on the spot.

A good supply of Bibles, Prayer-books and Hymn-books for sale or gift is needed in the diocese, and easy reading-books for loan at the various Mission stations for those acquainted with English. The S.P.C.K. has helped in all these things, and is ready to help again. For the Indians, twine and soap are most serviceable gifts: the twine for fishing nets, and the soap for that cleanliness which is intimately connected with health.

The Liard River and the Upper Youcon River, the two most southerly parts of the diocese, and the best in soil and climate, seem the points that call most for fresh extension and exertion in the Mission cause.

The following tabular statement may be subjoined of the present Missionary arrangements of the diocese, and the Mission agents that have been engaged in it from the first:—

DIOCESE OF MACKENZIE RIVER.

Tenni Missions.

Locality.	Mission.	Missionary.	When joined.	Position.
Fort Simpson	St. David's	The Bishop	1865	
		Rev. W. J. Garton ...	1881	Diocesan Secretary
Fort Norman	Trinity	Rev. D. N. Kirkby, B.A. ...	1884	Of Manitoba University
Fort Rae	St. Barnabas... ...	Rev. W. Spendlove	1879	Registrar of the Diocese
Resolution	St. James	Mr. E. H. Black	1887	Schoolmaster
Fort Wrigley	St. Philip's	Mr. Allen Hardisty	1873	Native Catechist
Fort Liard	St. Andrew's... ...	Mr. J. Hawkesley	1887	Catechist

Tukudh Missions.

Peel River	St. Matthew's ...	Archdeacon R. MacDonald	1862	D. D. Manitoba
		Rev. T. H. Canham ...	1882	Secretary to the Tukudh Mission
Rat River	St. Mark's	Mr. John Chietla	1876	Native Catechist
Rampart House ... / Porcupine River ...	St. Luke's	Rev. Chas. G. Wallis and Native Catechists	1886	C.M.S. Missionary.
Upper Youcon River / Buxton Mission ...	St. Thomas	Rev. J. W. Ellington and Native Catechists	1886	C.M.S. Missionary

Mission Agents formerly engaged in Mission Work in the Diocese.

Name.	Joined.	Left.	Years of Service.	Location.
Ven. Archdeacon Hunter	1858	1859	1	Fort Simpson
Ven. Archdeacon and Mrs. Kirkby	1859	1868	9	Fort Simpson
Ven. Archdeacon and Mrs. Reeve	1869	1879	10	Fort Simpson
Mr. Jos. Hodgson and wife, Schoolmaster	1873	1879	6	Fort Norman
Rev. Vincent C. Sim, C.M.S.	1879	1885	6	Rampart House
Mr. Kenneth MacDonald, Catechist	1871	1876	5	Rampart House
Mr. Murdoch McLeod, Schoolmaster	1866	1868	2	Fort Norman
Mr. William Norn and wife, Catechist	1873	1883	10	Resolution
Mr. John Hope and wife, Schoolmaster	1859	1864	5	Fort Norman
Miss A. Wheelwright, Schoolmistress	1876	1877	1	Fort Simpson
Miss A. Morris, Instructress	1881	1883	2	Fort Norman

CHAPTER IV.

INHABITANTS.

THE natives of the diocese of Mackenzie River are of three races: the Tenni, Tukudh, and Esquimaux races. The Tenni tribes inhabit the larger part of the diocese, the other races being confined to the north and west.

In other parts of the world it has generally been observed that the inhabitants of the sea coast or mountainous regions are more lively and intelligent than such as dwell in a flat or inland country. This region forms no exception to the rule, for the Tenni tribes appear much more demure and stolid than the Esquimaux, who live on the Arctic sea coast, or the Tukudh race, whose home is chiefly among the Rocky Mountains and adjoining ranges.

The Tenni tribes are of a sallow complexion, in this as in features more resembling the Mongolian type than the Red Indians of the south.

The Tukudh tribes have a national tradition of having reached their present country by crossing an icy strait of the sea, which was probably Behring's Strait; and the Tenni tribes must have a similar origin, for their language, though nearly as different from the Tukudh as French from English, yet has sufficient resemblance to betray a common stock.

The Tenni tribes are rather coarse featured, with thick lips and prominent cheek bones. They are at present inoffensive and submissive in temper, though a century since, before the introduction of European trade, the tribes waged a predatory war on one another, and among the distant bands on the Rocky Mountains this is hardly yet extinct.

The occupation of all the natives of the diocese is wholly confined to the chase or fishery. The Tenni tribes pursue for their sustenance the moose deer, reindeer, bear, and beaver, and for their skins the fox, wolf, marten, wolverine, and other small animals. The hunting is now carried on chiefly with firearms, the bows and arrows being mostly left to the boys; but snares and traps are used for all the above animals, at times, and for killing the wolves and foxes poison is occasonally employed.

The Tenni tribes live in conical tents or lodges, with a frame of poles and covered with dressed deer or moose skin. In spring they make canoes of birch bark for water travel and chase. In the fall of the year they make birch-wood snow shoes for winter voyaging. Their tents are floored with a litter of pine branches, and warmed with a pine-log fire in the centre. Their dress is of moose or deer-skin, trimmed more or less with beads or dyed porcupine quills, except so far as they may be able to purchase clothing of European manufacture.

It is foreign to the Indian nature to remain long in one place. They mostly shift their camps every few weeks or oftener. If deer or moose have been

killed, it is more convenient to remove their camp to the place where the animal fell, than to haul the meal through the woods to a distance.

Many of the Indians have erected wooden log-houses, after the fashion of the whites, which they are quite competent to do, but they seldom inhabit these long. Their fondness for roving, or an increasing scarcity of wild animals round their fixed abode, soon drives them again to their tent. Moreover, if a death occurs in their house, the Indians have a superstitious dread of remaining there, and these Indians are not careful enough in their domestic habits to keep their houses cleanly, so that it is hardly consistent with health and comfort for them to continue long in one place.

Though vegetable crops might be grown in the southern part of the diocese, the Indians have not yet found patience and perseverance enough to continue to cultivate these. When wild animals are scarce, the Indians are generally driven to stay with their nets at the fish lakes, where they make, perhaps, a scanty living. The easiest time for them is when the rabbits are plentiful, for these are easily snared; but the rabbits, like most of the small animals of the north, have periodical times of increase and decrease in number, having their maximum about once in every eight years, and between these periods dwindling to a very few.

The Tenni tribes are not quick at learning when adults, but if children are taken from the tents and placed at school along with the children of Euro-

peans, the Indian children may keep pace with the others in their learning or even outstrip them. They are also docile and easily managed.

The whole of the Tenni race seem to be of a sickly habit, and rather dwindling in numbers. They do not seem to be much addicted to ardent spirits, nor are these now supplied to them; but they have an inveterate propensity to gamble. Though almost wholly free from crimes of violence, and not much inclined to thieve, yet heathen habits of impurity cling, alas, still too closely to them, and they exhibit the usual Indian deficiency in a want of stability and firmness of character. This Indian race seems to have been free from idolatry before the arrival of Europeans among them, and they had some knowledge of a good and evil Spirit, and of rewards and punishments after death.

The different Tenni tribes inhabiting the country speak different dialects, and bear different names, such as the Chipewyans, Yellow Knives, Dog Ribs, Big River Indians, Slave Indians, Nahany or Mountain Indians, &c.

The Yellow Knives are so called from their formerly using knives and other tools or weapons made by themselves of native copper found near Coppermine River. The Chipewyan tribes extend in some of their members from Hudson's Bay to the Pacific coast, or the whole width of the continent of America. The Dog Rib tribes live to the north of Great Slave Lake, or between that and Great Bear Lake; and the Hare Indians to the north of Great Bear Lake.

The Tukudh race are rather more sharp featured and more lively and intelligent, as well as more cordial and affectionate than the Tenni. Their eyes are inclined to be small and pointed, rather as the Chinese. From this circumstance, probably, they obtained from the French the soubriquet of the Loucheux or Squint-eyed, for they are not really affected with squint.

The Tukudh make their tents in the shape of a beehive, with bent poles for the frame, and the tent covering is formed of deer-skins with the hair on and turned inside, the skins being softened by scraping. Their camps become thus nearly as warm as a log-house, and quite comfortable. Their dress in winter consists also of deer-skins with the hair on, and in cold weather the hair is turned inside. Their country lies mostly north of the Arctic circle, but these deer-skin dresses are almost impervious to cold.

These Indians receive instruction with avidity, whether in religion or other subjects; and they have taught one another to read the Gospels printed in their own language, though the words are of forbidding length. They had some national dances and songs of their own, and were fond of making harangues at the feasts, which it was their custom to make for one another. On such occasions a distribution of property took place somewhat as is usual with the tribes on the Pacific coast. Before Christianity was introduced among this tribe they were much under the power of their medicine men or

conjurors, who deceived them with their charms, and sometimes even frightened them to death.

The food of the Tukudh Indians is almost exclusively the reindeer, with salmon taken in the Youcon river. The deer are mostly killed by being driven into grounds or enclosures hedged with felled trees. The salmon are taken in weirs or traps made with willows in the bed of the river. The salmon are dried in the sun or over the camp fire for winter store. The flesh of the reindeer is also dried and sometimes pounded for preservation. The reindeer tongues are considered the most delicate part. In summer time the reindeer migrate to the Arctic coast to escape among the sea breezes of the barren grounds from the flies and mosquitoes which torment them at that season in the woods. In winter the deer return to the more southern forests to avoid the too-piercing cold and exposure of the extreme north.

The Tukudh Indians do not make many canoes, but travel on the rivers in summer mostly on rafts, which they construct and manage with a good deal of skill. Their snow-shoes are distinguished from those of the Tenni tribe by being round instead of pointed in front.

These Indians are kind to Europeans, whether traders or missionaries, and they are hospitable to visitors at their camps. The winter in their country lasts eight months out of the twelve, and it may be as well so, for it is much easier to traverse their country walking on the level snow of winter than

over the uneven swamps in summer. The surface of the swampy ground is broken up by the rains into high and slippery lumps locally called *têtes des femmes*, or women's heads, from the likeness of the dependent tufts of grass to dishevelled hair. Certainly the wresting of the ancles in sliding among these yielding knobs and their interstices suggests the idea of walking on the heads of a crowd.

When the snows have fallen and snow-shoes are donned there is no such impediment to smooth and even travel, unless by an occasional trip of the snow-shoes among the ground willows or bushes.

The Tukudh Indians are of various tribes, as the River, Lake, Mountain, Valley Indians, &c., but their dialects do not differ so much as among the Tenni. On the Upper Youcon, however, the races intermingle with others speaking a different tongue, and some appear more allied to the coast tribes to the west. Since peace has been established among them the Tukudh tribes often visit the Esquimaux of the Arctic coast, chiefly for the purpose of trading furs from them, and sometimes such visits are returned.

The Esquimaux observe and admire the change of character wrought in the Indians by the introduction of Christianity among them, because they are now sometimes fed and saved when starving or distressed by the very Indians who would formerly have only sought to surprise and massacre them as their hereditary foes.

The Esquimaux differ much in appearance and habits from the Indians. In complexion they are

as fair and fresh-coloured as ourselves, and do not differ much in feature from northern Europeans, but their eyes are rather smaller, and their faces and hands somewhat chubby. This seems caused by nature having provided them with a layer of fat or oil beneath the skin as a preservative from the cold. If you shake hands with an Esquimaux in winter you will find his skin in a glow at the lowest temperature. Their animal heat is sustained in winter, not by external fires, as with us, but by consuming a sufficiency of fat and oil to support a process of combustion within. For avoiding frost-bites their fingers and noses seem naturally short and dumpy.

In stature the Esquimaux of the mouth of the Mackenzie are, many of them, large and tall and of muscular frame; but the women are mostly below the average height of Europeans. The dress of men and women is nearly alike, but the coats differently shaped. The material is white deer-skin, tastefully decorated with beads and trimmed with fur. The men wear a circular tonsure on the head similar to that of a Romish priest. They have also the inconvenient custom of piercing each cheek with a hole to admit of the insertion of a large bead, often surrounded by a white disk or tablet of ivory nearly two inches in diameter. This awkward ornament somewhat interferes with the process of drinking and eating, forming too many outlets to the orifice intended for admission.

The Esquimaux, both men and women, are im-

moderately fond of tobacco, which they smoke differently from other people. The bowl of their pipe is less than half the size of a thimble, and two or three whiffs are all they use on each occasion. This smoke, however, they swallow, which produces a transient intoxication or even unconsciousness, under the influence of which they occasionally fall from their seat. When the process is gone through in an unsteady canoe in the water it is not altogether free from danger.

The Esquimaux wives have also an awkward habit of weaving in a pile or parcel on the top of their heads, by way of chignon, every particle of their own hair which has become disconnected from their youth up, so that the woman's age may be surmised from the relative size of her top knot. The Esquimaux mothers seem fond of their children, but seldom have more than one or two. If the number exceeds this it seems to be thought a superfluity, and they may probably sell or barter away the extra ones.

The skill of the Esquimaux workmanship is considerable, especially in carving needle-cases and other small ornaments out of the ivory of the walrus tusks. Their spears, bows and arrows, and other implements are all neatly contrived. Their canoes are well framed and covered with sealskin. These have no natural tendency to keep upright, but the reverse; yet the owner will ride them over the ocean waves as on a prancing steed. When his waterproof coat is secured over the mouth of the

canoe he will turn a somersault, canoe and all, from side to side in the water. They have a singular way of throwing a spear from a hand-rest at the musk-rat, so as not to overbalance the canoe, the management of which probably resembles somewhat that of a bicycle.

Their provision consists mostly of the flesh and oil of whale, walrus, and seal. These they hunt, not in their canoe, but embarked ten or a dozen together in a larger boat covered with walrus hide. In their common travels this large boat is managed by the women, who convey the tents, bedding, and utensils therein, while the men paddle about and hunt in their light canoes. The Esquimaux wives thus become superior oarswomen.

The dwellings of the Esquimaux vary at different seasons of the year. In the fall and early winter they dwell in houses partly excavated and lined with logs covered with poles, and over these with earth or snow. They are thus much warmer than they would be quite above ground, and it is not their habit to use fire in their dwellings. If fire is required for cooking, they make one outside. If fuel is at hand they prefer to cook their food; but if fuel is wanting or cooking inconvenient, they eat their meat or fish raw without trouble. In fact, meat or fish frozen can be eaten raw without so much distaste, the freezing having an effect on the tissues somewhat similar to the cooking. The taste of whale blubber is not unlike raw bacon, and it cannot easily be cooked, as it would liquefy too soon. Seal oil is the favourite

luxury of the Esquimaux; and it is indeed sweet, but somewhat mawkish and sickly.

When the winter is advanced, the Esquimaux leave their excavated dwellings, and build houses or even villages of frozen snow. These are constructed with such ease and speed that, as Milton's imagined palace, they seem to rise like an exhalation from the earth. The blocks of frozen snow are cut out of the mass with large knives, and built into solid masonry, which freezes together as the work proceeds, without the aid of mortar. Being arched over, a dome-shaped house is formed; with a piece of clear ice for a window, and a hole, through which you creep on all fours, for a door or entrance. One half of the interior is raised about two feet, and strewn with deer-skins, as beds and sofas, in which the long nights are passed in sleep, for which an Esquimaux seems to have an insatiable capability and relish.

In summer the Esquimaux camp in deer-skin tents. They then visit the trading establishment of the Hudson's Bay Company at Peel River, about 100 miles from the sea-coast, and there they barter their furs for tobacco, kettles, and axes. They do not purchase European clothing. In the autumn they often hunt for reindeer, or fish for herring, which they store for winter use; and they seem to prefer these when somewhat rotten.

The character of the Esquimaux is, unhappily, still rather treacherous and murderous. They are great thieves, and soon angry. They are, however,

capable of attachment and gratitude, and are some of them quite free from ill-will. They are willing to accept instruction in the Christian religion, though they have not yet learned to obey its dictates. Though in some respects disgusting in their domestic habits, yet in their manners to a stranger they are courteous and even ceremonious.

Before the introduction of iron among them the Esquimaux tools and implements were, of course, of stone or bone. They made fire by twisting through means of a bow-string a piece of hard wood in a hole made in a piece of soft friable wood, till the friction produced smoke and flame. They also picked up pieces of iron pyrites on the Arctic coast, and struck fire with these and pieces of flint gathered from a place called Flint Mountain.

CHAPTER V.

LANGUAGES.

It will not be expected that a philological account be here given of the languages spoken in the Diocese of Mackenzie River, but some observations on them may be permitted.

The first is the Tenni language, of which the dialects are as numerous as the tribes of Indians composing that widely-spread race. It appears to be the design of Providence that a difference of speech should operate to confine each nation or tribe to the country or district allotted to it. This is specially needful in the Indian country, where, from the scarcity of provision, all would soon be starved if the population were to accumulate in one spot. The difference of dialects is so arranged that the speech of each tribe is generally intelligible to their immediate neighbours, but not to those more remote, as the distinction of dialect increases with each remove.

The general characteristic of the Indian languages is that they admit of great precision in the description of external objects and of ordinary occupations or actions, but these tongues are greatly deficient, or almost wanting, in abstract terms or the representation of mental ideas. The language then may be said to be a reflection of the life of the speakers of it,

and unless speech and language are gifts of heaven, it seems impossible to account for the regularity of structure and beauty of arrangement of a language spoken by people incapable perhaps of the mental effort of counting from one to twenty.

That many of these languages had a common origin seems betokened by the fact that some resemblances of words may be noticed among them, and also some analogies of structure. A distant affinity to the Tenni tongue may be recognised even among the languages spoken on the Pacific coast, and these again may be probably traced to the languages of Asia. The Tenni language was originally monosyllabic, but in some of its dialects it exhibits now very long words, arising by a process of agglutination. The names, however, of elementary objects continue mostly monosyllabic, as *kon*, fire; *tu*, water; *tsuz*, firewood.

It might be thought difficult to convey religious teaching, or to translate the Gospels, in a language so destitute of abstract expressions; but a careful examination of the Gospels in Greek will show that nearly every radical word is based upon some outward act or object. It has thus been found not impossible to render the Gospels and other instructions into the Tenni tongue, and the effort has been a fresh proof of the universal adaptation of the Gospel to the wants of every nation.

Extracts from the Prayer-book, with Hymn-books and Primers, have been with much liberality printed in the Tenni language by the Society for Promoting

Christian Knowledge, and presented by them as a free gift to the Mission.

The same Society has also printed a Primer in Western Esquimaux, and still continues to offer important aid to the Missions of a similar kind.

The Tukudh language, though having an affinity to the Tenni, is much more full and complex. The conjugation of the verbs is more elaborate than in Greek, and the New Testament, Prayer-book, and Psalms have been rendered into the language without the vocabulary being found inadequate. The Tukudh tongue, in its purest dialect, is probably spoken by not more than 500 adults; yet its grammatical structure is complete, and its phraseology flexible.

That the language is the invention or elaboration of the people who speak it appears as incredible as that the forests of their land are their handiwork, and the only alternative seems to be that their language is to each race the gift of their Creator.

The Esquimaux language appears to have no affinity either to the Tenni or Tukudh, but in its structure and in a few words seems to have a distant resemblance to the Cree tongue. The Esquimaux words are long, and the grammar complicated principally by the pronominal subject and object of the verbs being denoted by inflexions, as in the Cree. From the Esquimaux tongue one word has been naturalised in English, namely, *harpoon*, which is Esquimaux for a fish spear; and *igloo*, the Esquimaux for a house, is not altogether unknown.

Some casual resemblances between words in these languages and European expressions may be happened on, as *Napoleon* is Esquimaux for a sledge-brace; and in Tukudh *sun* means a star; and in Tenni, to-day is *to-dzine*, the prefix being the same as in English. In Esquimaux dark is *tak*, which is sounded so much like the English word that it might be mistaken for it. It does not appear that any words have yet been incorporated into English from the Tenni or Tukudh tongues.

The same language obtains among the Esquimaux from Greenland to the Pacific Ocean, but the dialects vary a good deal between the east and west. The translations of Scripture made for the Greenland or Labrador Esquimaux, or even for those in Hudson's Bay, are quite unserviceable for the same race at the mouth of the Mackenzie River. A native from one part would, however, probably be able to make himself understood by the others in subjects of easy discourse.

The Esquimaux language is nearly confined to the latitude north of the Arctic Circle. The Tukudh and Tenni languages may be said, generally, to stretch across the American continent to the south of the Esquimaux tongue, down to about lat. 53°, south of which the Cree language predominates. But this does not apply to the country east of Hudson's Bay, where the Esquimaux race extends further south, as do also the cold and ice.

For a specimen of the languages, John iii. 16 is subjoined in Tenni and Tukudh, and in Western

Esquimaux as spoken at the mouth of the Mackenzie River :—

TENNI.

Ekaonte Niotsi nun gonito, te Yazi thligi yi koganiti, tene oyi yekeinithet, tsiedethet ka ile, ithlasi kondih katheon oli.

TUKUDH.

Vittekwichanchyo kwikit nunhkug kettinizhun ettevirzi ti Tinji kwunttlantshi chootyinte yikinjizhit elyet rsyetet gititethii ko sheg kwundei tettiya.

WESTERN ESQUIMAUX.

Nonamik Chuneyouk mutomuni nonami kobiagiait Notakak atoutsik mounga kontaga; keakia okperitpuni tamaita igilaitait ami witawak pugnichi nakchoami.

It may be noticed that the word for world is similar in the above three specimens—Tenni, *nun ;* Tukudh, *nunh ;* Esquimaux, *noona.* This may be a casual resemblance as regards the Esquimaux.

In all these languages the system of counting is founded on the principle of reckoning the fingers, and the Esquimaux include the toes. Thus, in Tenni, five is literally one hand, and a hundred is ten on each finger. In Tukudh nine is literally "one thumb held down," because this number is so represented in holding up the hands. In Esquimaux twenty is one man's fingers and toes, forty, two men's fingers and toes, &c.

The name adopted for God in the Tenni and

Esquimaux languages has been chiefly the Creator or Maker of the world. Occasionally the expression "Our Father in Heaven" is also used. In the Tukudh language a native word is used for God that had been already applied by themselves to the Good Spirit. The expressions implies "The Propitious One."

The name given to the English by the Tenni and Tukudh Indians is "the dwellers in stone houses." The origin of the name consists in the fact that the Chipewyans of Athabasca first found the English at the Stone Fort erected by them at the mouth of English River, Hudson's Bay.

There are some characteristics which the Tenni and Tukudh languages present in common with most or all of the Indian tongues of North America, even though these betray no affinity in their words. Such are the following peculiarities :—Parts of the body cannot be spoken of apart from some individual, expressed or implied, to which they belong. An Indian will say his or her, or its head, or a man's or a deer's head, but not a head or the head simply; and the same with the other members. Again, a different word is used for an elder brother or sister and a younger one, for an uncle on the father's side and on the mother's, and a father and mother will use respectively different words to express their son or daughter. The word "to give," receives various terminations according to the size, shape, and quality of the article given, and whether one or more, and the same with the word "to throw," and many others.

In the Tukudh tongue the verbs have a negative form, which is often so very like the affirmative expression, as to create much difficulty for one unpractised in the tongue. Even in English, the words literate and illiterate have been confounded by the unlearned. Adjectives and adverbs are mostly conjugated as verbs. The verb "to take," in the Tukudh tongue will have different forms, according as it means to take a person, or thing, one or many, for oneself, or for another, and with the foot, hand, mouth, word, or mind; and all these in the singular, dual, or plural number, and past, present, or future time, and each of these forms in various combinations together, till the ultimate number of variations is almost illimitable.

The Lord's Prayer may be added as a further specimen of the languages for those interested in such study.

Tenni.

Nakhe Tah yake, Nizi Edarie tsenidhun ka, Nine ko tsun Kaodhet neli ka. Ayi ninedhun kezi agote tidi ninike yake ente. Mego sheiti enete tidi dzine ke nakhegadindi. Nakhe othlini nakhega naonili tene ga kothlini nakhetsun ageti koga naoniyi kezi. Nakhetsunea kotsun ninakhonili ile. Ojidi cha nakhinchu. Tta nine kotsun Kaodhet neli, nanetset chu Edarie chu ithlasi. Amen.

Tukudh.

Nyiwho Ttyi zyeh zit nyikwilnjik Nyoohrzi rsin joo chootinyoo. Ni koo ke kwadhut nichoozhit. Ni

yinji zyehzit kwikit nunh kug akontekonji. Chih ttrinzit nyiwhon enyantsit ttrin ndo thlekwitunazya nyiwhoh ssih. Nyiwho trigwandyoth nyiwhet oounkwichili nittso einut trigwandyoth nyiwhet tungittiyin, ko tsut oounkwichitili Kookukwutundai kwutsut nyiwho tunoe rsho. Ko trigwandyoth kwutsut nyiwhoh yunnounji. Kwnggutyoo nitsun nili kookekwadhut ttei ako ekwandit sheg ako sheg kenjit. Amen.

Western Esquimaux.

Angotwot kalangmioyouk, Inuit atkan ikchiouk chinaglo. Kalangmin Kadetsi ikpuk kaitpun. Chuna ichoomugibichion inuit taimuna iliokoyait muni nonami kailakton ililogo. Oblomi nuklikparaini nukiptignik.

Chuinukpot iktiga, inuit chuinuk itkutputigot ikchiniakutka taimuna.

Kachagiaini ililugo. Chuinagmin totkokligot.

Kisiani Kadetsi igiogni niaktotin. Ilwi chookungaiotin. Ilwi kisiani koumayooktotin, kungiaktotin, taimonga. Amen.

CHAPTER VI.

FAUNA AND FLORA.

THE animals are the most numerous denizens, and form a main interest of the sub-Arctic clime, in which is included the diocese of Mackenzie River. The first to be mentioned are the bears, from which the Arctic world derives its name.

The common black and brown bears are not dangerous, but timid. They flee at the approach of man, and will not even fight to defend their cubs. The grisly bear is fiercer, and dangerous when wounded. It is much stronger than the common bear, but is chiefly confined to the Rocky Mountains or their neighbourhood.

The polar bear inhabits the ice of the Arctic sea, and lives on fish. It will attack a man if hungry, and is dangerous when provoked. The hair of this bear, which lives among snow, has such a natural quality of keeping unencumbered by the fallen snow, that it is used as a snow-whisk by the Esquimaux to clear of snow the deer-skins or other furs to which the snow more readily adheres. Such a polar bear-skin snow-whisk, which is usually made in the form of a mitten, is called by them, through a curious coincidence, "poalerin." "Poals" is a polar bear-skin.

The common bear is greedily fond of berries, and fattens in the fall when they are ripe. Afterwards it betakes itself to its hole for hybernation. The bear's hole is either some natural cavity found on a bank or hollow, or else is scraped out by itself. Here the bear lives without food or motion, or other sign of life but breath, throughout the winter, and in spring it is still fat. This foodless life seems almost miraculous till we consider that food is to supply waste of structure, and in perfect inaction there is no wasting. Is this revival, after a death-like hybernation, no aid to faith in the possibility of a resurrection?

The predatory animal next in size to the bear, and to which it bears some resemblance, is the wolverine or glutton. Many are the tales told of its rapacity and cunning. It is an enemy to the hunter from its habit of robbing his traps of their baits, or even of the animals caught in them. From its wary shrewdness it is not itself easily trapped.

Wolves are common, and are seen both black and white, both singly and in bands, but not in large packs; and as they do not attack man unless mad, they are not feared. They are great enemies to the moose and reindeer, and to nearly every other animal. Fastening on its haunches they will drag down a large moose. They will then mostly leave the animal to freeze to death before returning to feast on the carcase.

The large animals hunted for food are chiefly the moose and reindeer. The former of these is a solitary animal, the latter gregarious. The moose

being highly nervous and of keen scent, needs to be approached by the hunter with great caution. It is mostly hunted in windy weather, when the crackling of boughs by the breeze drowns the sound of the hunter's cautious tread. Otherwise his footfall, however soft, would alarm his prey too soon. The moose is sometimes hunted with dogs, by which it is baited or badgered as a bull by bull-dogs, till the hunter approaches. If the moose is chased to any distance by running, before its death, the meat becomes frothy and unpalatable.

The reindeer is hunted by running, not so much after it, as parallel to it, for this deer will seldom flee at once from the hunter, but rather circles round him or returns to and fro in front of him. When on their annual migrations, the deer take a straight course in large bands, and are not easily turned aside from the route they have chosen. They are then easily shot by the hunters in passing. At times both moose and reindeer are taken by being strangled with snares or slip-nooses of twisted sinew placed in their expected track, and firmly fixed to some wood.

The deer are also driven into pounds constructed of felled timber, and to which the deer are guided by rows of pine branches or upturned turfs placed over the snow and radiating in expanding lines from the pound. These, like scarecrows, though placed twenty feet apart, are viewed by the timid deer as a fence, which he is indisposed to cross, and he is thus led to his destruction. The flesh

of both moose and reindeer is pleasant and very easily digested, more so than the meat of domestic animals. The moose meat bears somewhat such relation to the deer's meat as beef to mutton, being of coarser texture and less tender.

The smaller animals, hunted for the value of their fur, are numerous. Such as foxes, marten, beaver, lynx, otter, minx, and muskrat. The foxes are of various colours, chiefly white or blue toward the sea coast, and red or black inland. They are mostly taken in steel traps.

The most valued fur is that of the black fox which is worth about £15 in the country, and more in England after it has been dressed.

The marten are similar to the Russian sable. They are taken in wooden traps, with a trip stick and fish bait. The lynx and beaver are good eating, as well as valued for their fur. The beaver are taken either by breaking open their houses in winter, after stopping their means of egress, or else by the gun in spring. The industry of the beaver is proverbial. Multitudes of small trees are felled by their teeth for the purpose of either stemming back the current to produce still water for their convenience, or else in building their lodges. The young poplars are also felled by them for a supply of food, as they nibble the bark.

To fell a tree the beaver sits up on its hind legs and tail, and, placing its fore paws against the tree, it nibbles all round the trunk, working downwards with its teeth as with a foot adze. The animal is

careful to gnaw the wood most deeply on the side the tree is intended to fall, and it seldom fails in bringing the tree down in the intended direction, though with even a human workman the contrary event not unfrequently happens. It has been doubted whether the beaver uses its tail in building. That it carries mud on its tail is fabulous. For such purpose its forepaws only are used, but that it may smooth the mud with its tail is generally considered fact.

The beaver's lodge consists of a heterogeneous pile of tree stems and branches, with mud chambers arranged among them, on the edge of the stream. As a dead beaver soon sinks, much smartness is needful to secure the prey if shot in the water. The beaver tail, being wholly composed of fat, is one of the luxuries of the north. Indeed, the meat of the beaver generally, is often as much fat as lean.

Another small animal of which the flesh is very good is the porcupine, which tastes something like sucking pig. The porcupine of the north is much smaller than that of southern countries. The quills are only about three inches long, and supple. When dyed, they are much used in ornamental leather work by the Indian women.

Rabbits are numerous and very wholesome. As these do not burrow, they are called Arctic hares by the naturalist. But as their not burrowing is probably a provision of Providence, to suit the fact of the ground being mostly frozen, it seems a pity that this animal should thereby lose the name of a rabbit, which it certainly resembles. The rabbit skins are of no

value for trade, from the hair being loose, but they are much used by the Indians in the woods for their own clothing, being the warmest of all coverings. The rabbit skins are cut in strips and twisted, and are then laced into coats or other garments. Robes for bed coverings are mostly made of the dressed skins of the reindeer or mountain goat, or of the siffleux or marmot. The wild goats inhabit the rocks of the mountains, where they are hunted with the gun by the Mountain Indians. Their flesh is good for food. The wild sheep of the mountains are less numerous.

There is a wood deer or stag, of a size half way between the reindeer and the moose. This animal keeps to the woods, and is not numerous.

The musk-rat is numerous in the streams, and is eaten by the Indians, though rather strong-tasted. Squirrels and field mice are plentiful. Otters are found, though not plentifully, in the lakes, and fishers on the land.

Confined to the barren grounds towards the Arctic sea coasts, are the musk oxen. These are smaller than the buffalo or domestic cattle, but are fierce and dangerous when wounded. Their hides make good rugs. Their flesh is rather strong-tasted, with a musky flavour. The whale, walrus, and seal are the larger animals of the Arctic seas in these quarters. The walrus tusks are good ivory, and are valuable in trade. The walrus skins cover the boats of the Esquimaux, for these have no boat-building timber, but split the frames of their boats and canoes out of

drift wood. The walrus skins are never cut by the ice, a quality essential to an animal living amongst it. The walrus flesh is but coarse food. The seal-skins are used by the Esquimaux to cover their canoes, and for waterproof boots and shoes, and for various other purposes. The flesh and fat of the seal are much esteemed as delicacies by the Esquimaux.

The fish of the Mackenzie River and of the adjoining lakes are chiefly the white-fish, blue-fish, jack-fish, perch, loach, and one commonly called the inconnu, or unknown fish, but which seems to be known to naturalists as only a different species of corigenus from the white-fish, which is designated *Corigenus albus*. Trout of a large size are taken in Great Bear and Great Slave Lakes, weighing commonly about 30 lb., and sometimes as high as 50 lb to 60 lb. The white-fish are numerous in the lakes, about 50,000 being netted every autumn at one fishery in Great Slave Lake, and weighing 2 lb. to 3 lb. each. This fish, for weeks, or even months, often forms the sole food of the *employés* at the Hudson's Bay Company's trading posts, and it is a sort of provision that as an exclusive diet it seems less wearisome than meat.

The birds of Mackenzie River are numerous, especially the migratory class. Those which pass in large flocks in spring and fall are the geese, swans, and cranes. These proceed to the Arctic coasts for the breeding season in summer, and return south to pass the winter somewhere in the United States. Many other kinds of birds arrive in spring and leave in fall,

as the eagles, ducks, grouse, and robins. Owls, hawks, crows, gulls, and some others continue more or less all the year. The cinereous crow, or whisky jack, is a saucy bird that frequents the camps of voyagers to eat their scraps, and in this wild country it appears the only thing that is tame by nature.

The grouse are of various kinds. Many sorts, like the rabbits, change their colour from brown to white on the approach of winter. This is an arrangement of a benign Providence to defend them from their depredators, such as hawks, owls, lynx, marten, minx, &c.; for on the white snow a moving brown speck is very conspicuous, and white almost unseen. White is also the warmest coloured dress for winter wear.

Kingfishers, woodpeckers, redbreasted thrushes, plovers, snipes, sandpipers, martins, and other small birds, are noticed in summer; and large flocks of snow buntings skim the ground in spring and fall, in going and returning between the north and south. Gulls are numerous on the rivers and lakes, where they breed on rocky islands; and pelicans frequent the broken waters of rapids and cascades, where they fish in the shallows.

The different kinds of geese, waveys and ducks, teal, tern, loons, and other waterfowl, need not be detailed here, but they are numerous, and afford food and amusement to the sportsman in summer, and especially in spring and fall.

Before dismissing the animal kingdom, the insects should be noticed, for Mackenzie River is a land of

flies. The common house-flies are not specially numerous, but the large horse-flies are very tenacious and tormenting in early summer, both to men and cattle, and they soon spoil any uncovered food. The mosquitoes for the three months, June, July, and August, are a wearisome discomfort, especially in the evenings and at night, unless kept off by a curtain. Relief from them is obtained otherwise only in the smoke of a wood fire, except that they are dispersed by strong wind, and somewhat allayed by a scorching sun-heat. On a soft delicate skin their sting is productive of a burning inflammation, amounting almost to a fever, but to smear the skin with oil or grease is a temporary preservative. About the middle of summer large dragon-flies appear in numbers. They are known as mosquito hawks, and are welcome visitors, for they thin the mosquitoes to a wonderful extent. Spiders, wasps, ants, and butterflies are common, but not more numerous than in Europe.

To turn to the vegetable kingdom, the forest trees of the Mackenzie River are chiefly the pine and birch, the latter only sprinkled here and there among the pines. Each of these trees is of essential use to the inhabitants. The former builds the houses and boats, and provides the fuel. The harder wood of the latter tree forms the sledges, snow shoes, axe handles, and other implements. The red pine, or tamarack, is also found, but not often of large size. In the southern district, on the Liard River and the Upper Youcon, poplar mingles with the pines. Of bushes or undergrowth there is little beside willow,

red and grey, and alder, and juniper, and wild roses, besides various berry trees.

The wild berries of the country are numerous, though small. Those on bushes are the high bush cranberry or mooseberry, the bearberry, raspberry, gooseberry, black and red currant, and another locally known as the poire, which, when dried in the sun, forms a passable substitute for dried currants. All these are edible, but without the sweetness or flavour of the cultivated fruit, except the raspberry, which is not much different from that of the gardens. On the ground are cranberries, eyeberries, dewberries, partridge berries, crowberries, blue berries, yellow berries, and small strawberries. These are all more or less acceptable to palates not too fastidious. The inconvenience of gathering them in summer is chiefly from the swarms of mosquitoes. The cranberries and crowberries remain on the ground under the snow all winter, and may still be picked in spring, when the snows melt off.

The rapidity with which vegetation progresses, and the berries mature, during the short summer is very remarkable. Of the ground-berries the buds and blossoms are already opening when the snows melt off them, and in a few weeks fresh berries are already ripening before the old ones disappear. The chief carpet of the North is the moss, both green and white. This forms the reindeer's food. Even on the rocks the lichen is edible, and forms the last resort of the starved voyager.

CHAPTER VII.

ARCTIC LIFE.

It may be desired to know of what sort is the life of an European resident in an Arctic or sub-Arctic clime, and how great is the difference of habits caused by the climate. In respect to dress, very little change of clothing is needful from that usual in Europe. By a benign arrangement of Providence, the sharp cold of the North quickens the circulation, and exercise only is needful for warmth. To admit of the walking being unimpeded, wraps are as far as possible dispensed with, and an overcoat is seldom worn. The hands, feet, and ears, however, need much protection. Under soft mooseskin shoes are generally worn two thick socks of blanketing, and the leather mittens for the hands are also lined with blanketing. A fur cap is worn on the head, with covering for the ears.

One chief characteristic of Arctic life is the precarious supply of provisions. To have no certainty whence next week's meals are to come, and the knowledge that these could not be bought for their weight in gold if absent or lacking, is a new experience for one used to the neighbourhood of butchers' and bakers' shops and the powerful aid of present cash. Scarcity of food obliges to a trust in Providence which is not disappointed. When one

source of supply fails, another opens. If moose are scarce, deer are plentiful. If meat fails, fish appears. When fish are absent, rabbits swarm. When these decline, birds arrive. Thus by a kind Heaven the wants of all are met. The Indians are so confident in fresh supplies that they finish their last mouthful without anxiety, and seem to need no more store-house or barn than the sparrows or ravens.

An Arctic life, except among the Esquimaux, makes fire and fuel of next importance to food. The dead pines are cut down with the woodmen's axes, chopped into suitable lengths, and hauled on sledges to the houses by oxen or dogs. The logs are again cut and split into billets of about two feet long, and an armful of these is placed upright in the open chimney, unless there is a stove to contain them. The sparks and burning splinters from these billets often fly about the flooring, but do not ignite the boards, and the snows on the roof prevent these being set on fire by the sparks which issue from the chimney above.

The construction of the houses is usually as follows:—Four upright corner posts are mortised above and below into rectangular frames of square beams, and the side walls are then filled in with pine logs with their pointed ends fixed in grooves in the corner posts. The roof is formed of smaller sticks laid from the eaves to a ridge pole in the centre, and these are covered with layers of pine bark. The walls of the house are then coated inside and out with mud; and, if possible, washed

over with white earth for the sake of appearance. The chimney is built with stones and mud; and if there are no stones, then with mud over a frame of wood. The better houses are ceiled inside with boards. Where glass is wanting, the windows are filled with parchment.

As meat and fish and even milk will keep when frozen all winter, there is no danger of provision spoiling at that season; but the frozen meat will need to be cut up with the axe, unless previously thawed. The inkstand may have to be taken to bed to avoid freezing the ink, which pales it.

In winter walking, a white spot on the cheek or nose is a sign that these are freezing. Such an accident is thus visible to a companion, though the patient may be unconscious of it from the loss of sensation in the part affected. Warming the part with the hand or rubbing with snow affords a cure.

The chief characteristics of an Arctic life, however, consist not so much in what is present, as in features that are conspicuous by their absence. No cities, towns, or villages, streets, roads, or lanes; no markets, farms, or bazaars; no flocks or herds, or carriages; no money, whether coin or notes; no railways, mails, or telegraphs; no Government, or soldiers, or police; no prisons or taxes; no lawyers or doctors. Newspapers three months old, and letters three or four times a year. The absence of all these sources of interest is apt to render the mind vacant and listless, or to engender idle gossip or thoughtless amusement.

There is, however, time and opportunity in the quiet North for study and self-improvement if the disposition and the books are not wanting. For, after all, the best quality of this northern life is its peaceful tranquillity. The country is quiet; the people are quiet; the occupations are quiet, and there is little to disturb those who are fond of their own society. The Indians, it is true, are restless, and often repeating their visits to the houses, but these can be excluded when necessary. An outdoor life, however, to which the bracing climate invites, is apt to dissipate the mind from study, and it is doubtful how far complete solitude is advantageous for improvement of character.

In winter the days are very short. To take a moderate case. If the sun rise at ten and set at two, there is none too much time for reading by daylight, and candles may be scarce for evening study. The long summer days, when there is no night, might be thought to make amends for this; but the summer's heat seems somewhat to enervate the mind by a reaction from the bracing cold of winter.

The outdoor occupations are hunting, shooting, and sledge-driving. The winter travelling is not disagreeable to a hardy pedestrian. The night encampment is then made in the snow each evening under the open sky. Pine branches are laid on the ground when the snow is cleared off it, and with a large pine-log fire, a good supper, and enough blankets to wrap in, the traveller sleeps well enough. The provisions taken for a winter trip are mostly

dried meat and tea for the travellers, and frozen fish for the dogs, of which four haul the sled load of blankets and provisions each day, from 3 or 4 o'clock in the morning till sunset, with an hour's rest for dinner. Toward spring the glare of the sun on the snow is very strong, and inflammation of the eyes, ending in snow blindness, is often painful and distressing. When the voyage is finished, a drop of laudanum in the eye will generally effect a cure.

Walking on snow-shoes in winter sometimes produces a sort of cramp in the muscles of the shin, which is called snow-shoe sickness. This at times causes the limbs to become so swollen and stiff that the feet have to be lifted by a line attached to the front of the snow shoe. If the end of the journey is yet 100 miles off, this is far from agreeable. In crossing the large lakes in a blinding snowstorm sometimes the right direction is lost, and the travellers have to sleep without fire on the ice. There is, however, no danger in this when caution is used. The voyagers may lie down to sleep in a hollow scraped in the snow, with their sled as a partial shelter from the wind, and they will awake in the morning none the worse.

There are few countries more safe for the traveller than the Mackenzie region, and weapons of defence are not required against man or animals. In winter the bears are in their holes, and the wolves, though they may follow up the sled track, yet will seldom approach very close to the night encampment, being deterred by the smell of the fire embers. Summer travel has been in the past entirely by row-boat or

canoe. Both summer and winter the average day's journey is from twenty-five to thirty miles, unless in descending the current. In mounting the stream, when the river banks admit of it, the boats are hauled by four men on the beach with a tow-line. For a canoe one man will suffice to haul. A fair breeze will permit of hoisting a sail, which in the case of a canoe usually consists of a spread blanket. The sight of a moose deer or beaver in the water is the signal for a chase. In winter hundreds of miles may be traversed without encountering a human being. In summer, once in two or three days a few Indian tents may be found on the river bank, and a few fish or a little meat may be obtained from the natives in exchange for a little tea or tobacco.

The boats in use on Mackenzie River are rowed with eight or ten long and heavy oars, to which the rowers rise from their seats at every stroke. They hold six or seven tons of merchandise. About twelve of such boats will bring in the entire annual outfit of supplies for Mackenzie River. One boat-load will be exclusively tobacco; two more, ammunition; another, flour; another, tea; another, sugar and other groceries; the rest mostly clothing and iron utensils and axes. It is surely by the provision of a benign Providence that in this way the needful wants of each scattered band of wandering Indians throughout the whole country are adequately supplied in exchange for the one commodity which the country affords, the furs, which are coveted by European traders. We are told that extremes meet, and it

might be hard to find a better example of this proverb than in the contrast between West-end fashion dressed in extravagantly high-priced furs, and the squalid and pitiful Indian who procures those furs in his wanderings among the Arctic snows.

The Esquimaux houses, as is well known, are warmed, not with fires but with lamps. A stone tray is provided, round which a circle of moss is arranged, and over it a piece of whale fat is hung. Oil is put in the tray, and the moss being ignited, gives both light and heat. The oil is replenished from the dripping fat above. The effect is not very dissimilar to that of a gas-stove.

A chief contrast between civilised and Arctic life consists in the slowness with which the affairs of life appear to proceed in the North, compared with the railway speed and bustle with which everything is transacted in Europe. There seems a contrast in two opposite respects. In respect to the events crowded into it, a week of civilised life seems to equal a year of Arctic experience. On the other hand, a month of solitude may at times drag so heavily as to equal a year of bustle and engagement.

One great blessing of the Arctic climate is the healthiness of it. Sickness is rare among the resident Europeans. Lung diseases seem often cured among them by the dry, bracing air of the North. Consumption appears to be generated or fostered by damp and impure air and confinement, and to be banished by free exposure to a dry and bracing atmosphere. Let the consumptive patients be despatched to Mackenzie

River for recovery, rather than to Madeira to die. It is singular, however, that this climate, healthful to the resident Europeans, does not conduce to good health among the native Indians. These are often consumptive, a tendency which seems due to a scrofulous constitution. Vicious and uncleanly habits, irregular diet, alternate gluttony and starvation, exposure and self-neglect, may also be among the causes of the Indian sickliness. We find here a strange contrast with the hot climates of Africa and India, which, while healthful to the natives, are insalubrious to the European. In the North, on the other hand, we find an aboriginal population failing from disease, and Europeans thriving in health. There is little doubt that in exchanging their original garments of furs for the products of the European loom, these northern Indians made for their own health a poor exchange. The fur clothing was not only much the warmest, but the skins, in the absence of soap, were easily cleansed by scraping or currying, while a woven garment, especially if of cotton, both admits the cold and contracts the dirt. The Indians have also become exposed to some contagious diseases from the residence of Europeans among them, and even the goods packed in England for their use have at times brought the seeds of fever along with them.

Regarding temperature, the thermometer in winter in Mackenzie River falls frequently as low as 50° below zero, Fahrenheit. Occasionally it stands at 60° below zero, but chiefly within the Arctic circle. A range of 30° below zero is considered a moderate

cold for travelling or outdoor labour, and it is amusing to hear the weather complained of as too hot for working or walking comfortably, if the temperature stands above zero.

In summer, on the other hand, the heat is scorching, but only in the daytime, and at most for a few weeks. Toward the end of winter it is not unusual to see in a single day as great a range of temperature as is found in the whole year in England. The thermometer may stand at 30° below zero, or lower, in the early morning, and in the afternoon at 40° above it. The dry cold of the North is not so penetrating as the damp chills of an English winter, and a change of temperature is less immediately felt. It is possible to emerge from a hot room with a temperature of, say, 80°, and stand outside for a few minutes in a cold 30° below zero before the person feels chilled, and brisk exercise will sustain a glow.

In summer it is customary with the Indians and Esquimaux, and partly with the white residents, to sleep in the day and rise by night, if it can be called night, when the sun does not set, but only approaches the horizon in the North at midnight. The Esquimaux are compelled to this habit by wearing only clothes of reindeer skin, which are very uncomfortable in the heat of a summer's day. They subsist also on the musk-rat, fish, &c., which are best hunted in the night-time. Similar motives obtain with the Indians.

It is pleasant to be able to read throughout the night in summer without being interrupted by dark-

ness; but the compensation for this comes in mid-winter, when there may be only daylight for two hours at midday to take a book. After all, the constant daylight of the Arctic summer becomes wearisome, and repose is sounder and sweeter when sheltered in the shadow of the dusk. Though the winter is cold and bleak, dark and dreary, yet most residents prefer this season to the short summer, which is fatiguing with the heat, glare, and mosquitoes. A kind Creator adapts men's homes to their tastes, and it would seem that few natives are so home-sick when removed from their native land as the Esquimaux.

CHAPTER VIII.

METEOROLOGY.

One chief peculiarity of the Arctic regions lies in the strange position and movements of the sun, moon, and stars. About these some remarks may be permitted. Regarding the sun, the place of its rising and setting changes so quickly that every week brings a noticeable difference. Instead of the sun rising always in the east, it rises in the winter near the south and in summer near the north, and the same positions will be those of sun-setting. This makes the length of the day vary with equal rapidity, so that each week in the year the days are an hour longer or shorter than the previous week.

These last statements apply, however, only to the region strictly within the Arctic Circle. In latitude 60° the sun will rise on the shortest day in the south-east about nine o'clock and set in the south-west about three.

Thus, in the Mackenzie River Diocese we have in mid-winter at Fort Liard about six hours sunlight; at Fort Simpson about five hours; at Fort Wrigley about four hours; at Fort Norman about three hours. At Good Hope there would probably be about one hour's sunlight on the shortest day but for the hills which conceal the sun altogether. At Peel River, La Punas

House and Rampart House the sun in mid-winter does not rise at all.

By the end of May, however, or in less than twenty-four weeks after the days begin to lengthen at the three last-named posts, the sun stays above the horizon all the twenty-four hours. There is thus an average gain of one hour in the length of the day every week.

In winter the noonday sun appears, if at all, only among the tree-tops in the south, while in summer the midnight sun will be seen among the tree-tops in the north. The midday sun then shines as high as the English noonday sun in April. In the latitude of Peel River, the most northerly of the Mission stations in Mackenzie Diocese, the midsummer sun is continuously above the horizon for six weeks. In winter, however, it is far from being continuously below the horizon for the same time. This difference is owing to the happy effect of the atmospheric refraction, which makes the sun when near the horizon in these latitudes appear about 5° higher than its real position. In fact, at the latitude we have named the sun is hardly out of sight entirely for a single day. From the housetop a small edge of the upper limb of the sun's disc will be visible on the shortest day, which appears to be December 22nd or 23rd in those regions. By the 1st of January about half the sun's disc is visible, and in a few days more the whole of it (the astronomical sunrise). When once the noonday sun leaves the horizon it mounts very rapidly, and each

day witnesses an observable increase of altitude. By the end of April there is continuous daylight, and by the end of May continuous sunlight.

In the short days of winter throughout the North the twilight is very long, according to the benign principle of compensation which obtains throughout nature. The average winter twilight is about three hours in the morning and the same in the evening, counting as twilight the time from daybreak to sunrise; and within the Arctic circle in mid-winter the time is longer still. In the latitude of Peel River, even on the shortest day, when the sun does not rise at all, the first streak of dawn will still be visible in the south-eastern horizon soon after 7 a.m. About an hour later the day sky will have extended to mid-heaven, but the ground will still be dark. In another hour, or soon after nine, there will be light enough to see the ground and bushes and track for walking, but only in dim twilight. In another hour, or about ten, it will be clear daylight outside, but still dim in the house. About eleven it will be light enough to see to read in the rooms.

At the same time red clouds will appear toward the south, holding out an expectation of approaching sunrise. These will increase in brightness till at noon they are gilded with the brilliancy that immediately precedes the beaming forth of the orb of day, and even the sunbeams will shoot up from the horizon. All these lengthened preparations, however, end at last only in disappointment, for the sun does not really appear at all. The appearances of the

morning are then repeated in a reverse order, and with lingering decline, until before 5 p.m. the last streak of daylight in the south-west sinks into black night.

But an Arctic night has many illuminations, and this brings us to speak of the seeming irregularities of the moon's progress. The place of the moon's rising circles the horizon every month in a similar way to that of the sun every twelvemonth. Every moon in one part of its monthly course circles the heavens without setting like the midsummer sun, and at another of its phases it will appear only among the tree-tops, or else not rise at all, like the sun in winter.

And here comes in a beneficent arrangement of Providence. In mid-winter, in the sun's absence, it is the full moon that never sets, but circles in unbroken splendour throughout the twenty-four hours, while the new moon does not rise at all. In summer this is reversed, and the full moon hardly rises, while the new moon never sets, but in the perpetual sunlight of summer the moonlight would be wasted if present, and is just as well dispensed with.

From the place of the moon's rising being so rapidly changed, its hour of daily rising becomes also more irregular in these northern climes. It rises sometimes about the same hour for several successive nights, and at other times will rise two or three hours later than the previous evening. This depends upon the moon's position with regard to the celestial equator, in other words, its declination.

Regarding the stars, it may be remarked as one

noticeable feature of the Arctic heavens, that the pole-star is, in winter, nearly overhead, and round this the northern constellations circle rather than rise and set. The stars appear brilliant when the sky is clear, and "Arcturus and Orion, and the Pleiades" shine high in full splendour. The planets in the winter nights appear near the horizon, and with their discs much enlarged. They are in this position because they travel nearly on the ecliptic, which is the sun's path. In this way the bright evening or morning stars of Christmas time often call to mind the star of Bethlehem.

In Mackenzie River, from the difference of time, the constellations appear in similar positions at four o'clock in the morning to that seen in England at eight in the evening; so that the Arctic voyager starting on his winter's trip before the dawn, will recognise the same stars that have attended his evening walks in Europe. Shooting stars are not very frequent in the far North, a fact which is easily explicable, for these cosmical bodies are more readily encountered further south, by our earth in her travels through space.

The meteors like the sun's rays strike the atmosphere more obliquely towards the poles, and so are rarer or more dispersed in the far North.

The aurora is almost a nightly phenomenon in the far North when the sky is clear. It seems to be apt to follow the course of a moisture rising from any lake or river, so that along the Mackenzie River the aurora often appears as a continuous line of light,

stretching across the sky high overhead, but its lines have a tendency to be at right angles to the magnetic north. The coruscations of the aurora are often brilliant, and of varied hues—blue, green, and lilac. Its waving light has the appearance of the rustling of silken banners, and its varying colours resemble the flashes of shot silk. Its sound also, by those who have heard it, is compared to the rustling of silk, and the testimonies that it is audible are too general and consistent to be disregarded. It is doubtful whether the aurora can be displayed without some moisture to which to affix itself, for often at morning's dawn a slight cloud will be seen in the part of the sky from which its brilliance seemed to emanate.

Within the Arctic circle the display of the aurora will usually appear rather to the south than to the north, in which direction the heavens are generally dark. When the sky is cloudy the light of the aurora, veiled by the clouds, often simulates the dawn, and may betray an unwary traveller to rouse himself hastily long before day.

The difference of longitude between England and Mackenzie River gives about eight hours earlier time, so that our friends in England are already up again the next morning before we retire to rest the night before, and Monday morning's bustle has begun in Europe while Sabbath evening services are still held in Mackenzie River. Respecting the seasons, both countries being in the northern hemisphere, summer and winter, of course, recur at the same time in England and Mackenzie River; but for all this the

seasons can hardly be called entirely contemporaneous. In the far North there is scant spring time. Winter reigns till May, and summer begins in June; a longer autumn, and the pleasantest season of the year begins in August and lasts till October, when stern winter resumes its sway.

Indeed, a foretaste or warning of frost and snow generally begins at the end of September or beginning of October, after which there is often a return of fine warm weather for two or three weeks, which are locally known as the Indian summer. In winter the weather is not of continued equal severity, but alternations of colder and milder weather, enduring for a week or two, succeed each other throuhgout the season. The severe weather is accompanied by a clear sky, and the milder temperature by cloud; but whether the cloud is the cause or effect of the warmth is not so plain. It appears probable that a downward deflection of a warmer equatorial current in the upper atmosphere may cause the breaks in the cold, and that the moisture of that warmer air is condensed in its descent in the form of cloud. This hypothesis accords with the experience that the mountain tops have a milder temperature in Arctic latitudes in winter than the lower levels.

The readiest way to thaw frozen fingers in Arctic latitudes is to plunge them into water, for though the water may be full of ice it will not be below the temperature of freezing-point, or 32° Fahrenheit, though the temperature of the air may be 60° to 70° lower. The temperature of the Arctic ocean in

winter, even though frozen, seems to be somewhat milder than that of the adjoining land. It has been questioned whether or not the climate of the Arctic regions was ever a tropical one, or of a higher temperature than at present. Evidence in the affirmative has been said to lie in fossil leaves or impressions of tropical flora and fauna found in high latitudes.

In Mackenzie River it has been stated that fossil impressions of large leaves were found in the exposed coal-beds, but this does not seem to be substantiated. The coal-beds adjoining the Mackenzie River have been on fire for a century past, and the subterranean fires bake the river-side clay into a hardened brick or biscuit. The recent impressions of autumn leaves drifted down the river are imprinted on the clay and then baked into simulated fossils. These leaves may come from many hundreds of miles south, though not from the tropics. The Esquimaux, however, at the mouth of the Mackenzie appear acquainted with the elephant, of which they state the remains to be found in their country, and bones of mastoda have been found in the Youcon. The elephants, however, found here and in Siberia may have been imbedded in ice ever since the Deluge, or they may be of a species adapted to an Arctic habitat.

The operations of nature appear to have been less subdued formerly than now, and it is possible that a more violent tropical oceanic or atmospheric current in former ages may have moderated the rigour of the poles. At present the warm equatorial current

makes the Pacific coast of North America without a winter at a latitude where at 100 miles inland there is six months snow, just as the Gulf Stream warms northern Europe. In Mackenzie River a westerly wind for two or three days, by bringing the warm Pacific breezes across the Rocky Mountains, will produce a thaw even in winter.

Astronomers state that any alteration in the inclination of the earth's axis is but slight and within fixed limits, so that if the Arctic climate was ever tropical it would probably be owing to a change in the position of the earth's poles, irrespective of its inclination, similar to the change which is constantly taking place in the magnetic pole. For such a change it may be hard to find an astronomical test, but it could hardly obtain unless the earth's crust were less rigid than at present.

It is generally believed that even since the first arrival of Europeans in Mackenzie River the winters have become less severe, and there seems to be some evidence that the extremes of heat and cold are less at present throughout the earth's surface than in ancient times, when vineyards are spoken of in Northumberland and snow on Vesuvius.

Terrestrial magnetism and electricity have much force in the far North, though thunder and lightning are infrequent. Furs and woollen clothes often sparkle with electric light, and hair stands bristling. This may tend to the healthfulness of the region. Halos and parhelia, or mock suns, are common in the North, and rainbows, solar and lunar, are seen.

Full meteorological tables for Mackenzie River have been published with Government authority by Capt. Lefroy.

The winds of the North are various and irregular, though northerly winds seem to prevail most in the spring, and southerly in the fall of the year. The coldest winds are easterly, and the warmest westerly. No special equinoctial gales are noticed, though March, as elsewhere, is a windy month. Happily the severest cold is mostly in calm weather; for a gale at 50° below zero is nearly intolerable. Even at zero a strong wind makes the temperature appear 30° colder.

Regarding the rainfall or depth of snow, this also is irregular. Some summers are wet and some dry; some winters the snows are deep, and other seasons the reverse. The average winter's depth of snow may be about four feet, but more in the drifts. When there is sufficient rain in the summer, good crops may be expected, unless these are cut off by too early frosts. At times by a sudden and severe frost the potatoes, though ripened, may be frozen in the ground before there is time to dig them up.

On the whole the Mackenzie River is a country of sunshine, much more so than the English climate. Both summer and winter a clear sky predominates. This is a great contrast to the Pacific coast, not far distant, where the dry days count hardly one in five. In the Mackenzie River a whole month may elapse without rain. The most snow generally falls in November. In the neighbourhood of the mountains

there may be an occasional snowstorm in any month in the year, but in summer this soon melts again. On the level country the snow generally disappears by the end of April in the more southern parts, and in the month of May in the extreme north. The end of October, or the beginning of November, mostly brings the fresh snowfall

CHAPTER IX.

DRESS AND HABITS.

The Mackenzie River being supplied with domestic requisites from England has not in this respect the appearance of a foreign land. Not only the white residents have their clothing and utensils from Europe, but the Indians also purchase these articles of English manufacture. Even when they make clothes of their own native leather, they now affect European shapes and costumes, and their ancient national dress, ornaments, implements, and weapons are falling into disuse. Still it may be worth while to offer a few words on Indian dress and habits. The Indian dress is naturally made of fur, deer-skin, or dressed leather, and consists of coat, leggings, cap and shoes, with a skin blanket by way of a cloak. Marten or beaver skins formed at first rich coats for the Indians, but these are now traded off for necessaries. The cap is usually of fur in winter. The shoes are always of soft dressed leather. The native Indian coat in the North was formerly pointed both before and behind. In fact, the name Chipewyan is a Cree Indian term meaning the pointed coat, but this shape has fallen into disuse.

The women's dress mostly consists of a long leather coat trimmed with cloth or beads, and some-

times a cloth hood for the head. The women's faces were till recently often slightly tattoed with dark lines on the chin, formed by drawing a thread loaded with gunpowder or colouring matter under the skin. The men were formerly much addicted to painting their faces with vermilion, but this has fallen into disuse among the tribes in contact with Europeans. The Esquimaux young men stripe their faces with vermilion as a distinguishing mark when they have killed an enemy.

The Indians are fond of rings, earrings, bracelets, and necklaces, and they formerly pierced the cartilage of the nose for the insertion of a shell ornament. Belts are tastefully manufactured by the Indian women of porcupine quill work. This or bead work, and the making of shoes, form their chief employment. The old women employ themselves in twisting grass, roots, or sinew into twine for sewing, or fishing nets. The men and boys are often busied in shaping bows, arrows, snow-shoes, sledges, or other articles.

The Indians were formerly accustomed, instead of burying their dead, to place them on high scaffolds above ground, but this habit was probably owing to the ground being for many months in the year frozen too hard to dig it. The raising on scaffolds was also a safer preservative than burying under ground from the ravages of animals of prey. Since mingling with the whites, however, the Indians conform to European habits of burial. It was also formerly a superstitious custom to place with the deceased his bow, arrows, and other necessaries; and even in later

times a gun, ammunition, tobacco, fire bag, and other articles, have been buried in the grave of a dead Indian. Such a superstition it is hard to eradicate, and perhaps it needs some care not to quench too roughly the idea of a life continued after death, until the knowledge of a spiritual immortality and a final resurrection can be instilled, to supplant the instinctive notion of a continued mundane life.

The old stone axes, knives, and spear and arrow-heads of the Indians have naturally now been exchanged for iron. Still however, a blunt stone axe is used for grubbing up edible roots, and flint arrow-heads are still occasionally used by the boys, and a sharp flint is preferred for a bleeding lancet.

The view of these stone implements still existing seems a warning to antiquarians not to dogmatise too much as to the date of similar remains found as relics of a past age; and as to judging of such date by fineness of workmanship, a guess may be quite illusory. The good shape of the flint arrow-heads may depend on the question whether they were made by a man or boy, or the inferior skill may be a sign of more degradation, and thus of a later period. Stone knives are still used by Indian women in currying skins. It has been already remarked that copper was made use of for knives by the Indians near the Coppermine River before the arrival of Europeans, and pieces of meteoric iron were used by the Esquimaux for striking fire.

For cooking, the Indians were formerly accustomed to weave baskets of roots closely enough to hold

water. This water was then heated for cooking purposes, by immersing in it a succession of hot stones. Meat was baked by being buried in the earth and a fire made over it. At present the boiling is done in iron or copper kettles, and the roasting on wooden spits or skewers before the fire.

The Tukudh Indians had formerly regular tracks or roads cut through the forests throughout their country for communication between the different tribes. They used sleds mounted on runners, as the Esquimaux do now.

None of the Indians of Mackenzie River seem to have been acquainted with the use of plants or herbs for medicines. In their medicine making they used only the charms of drumming and singing. The Esquimaux, with the drumming and singing, combine an address as to an invisible spirit supposed to have power over the disease.

The women in the Indian lodges were formerly obliged to eat after the men, but they are now learning of the Europeans to mess in common. Indians were formerly accustomed to have a private cup of their own, and would object to others, and especially to a woman, drinking from it; but this superstition is also dying out.

The Indians had formerly much superstitious dread of using any clothing or other articles belonging to a person deceased. In case of a death all the clothing and effects of the departed were thrown away or destroyed, and even the relatives would destroy their tents, guns, and other property, either out of grief or

from dread of using again anything that the deceased had come in contact with. These inconvenient customs are being gradually relinquished. A hunter was considered bound to eat the head of an animal killed by him in order to secure further success in the chase. Some Indians attribute to the chase of particular animals, such as the wolf, the effect of spoiling their gun; but it would be idle to enumerate further the Indians' vain superstitions.

The Esquimaux are accustomed to angle with an imitation fish carved in ivory having an iron hook protruding from it, so that the one instrument forms hook and bait together without more. Their fishing-nets are often netted of split whalebone.

The use of an almost exclusively animal diet does not appear productive of any ill effects among the European residents, nor is it distasteful when it has become habitual. In fact, the cold climate calls for strong food, and fat or sweets as generators of heat are adapted to the country. The sicknesses of the Indians may, however, be partly attributable to their free use of animal blood, in which disease may be communicated, for skin diseases are common among the wild animals as among the Indians. The health of the Indians seems to have improved since they have been more plentifully supplied with tea, the use of which has moderated their indulgence in blood as a beverage. Their neglect of the use of salt may also be a means of their unhealthiness, and if they were more plentifully supplied with this article, it might tend to counteract their scrofulous habit.

The taste for tea and tobacco has, of course, been acquired by the Indians only since the arrival of European traders among them. It is doubtful whether their large use of tobacco conduces to their welfare. An idle Indian may be more inclined to allay the pangs of hunger with his pipe than to brave the cold of winter in hastening to the chase. Many of the Indians complain of pains in the chest, which may arise from their incautiously imbibing the caustic ashes with which they often load their empty pipes in lighting these at their fire embers.

The infant Indians are, as is well known, enveloped in bags of moss, which, in this severe climate, are admirable preservatives against cold and exposure. In these bags the infant is tightly laced up, confining the limbs and leaving only the head exposed. This process of mummification does not seem to weaken the limbs, nor to give discomfort to the patient. The swing is the usual accompaniment of the moss bag, where the swaddled infant is lulled to rest. Slung over her shoulder, this moss bag is the constant burden of the mother's travels.

When the Indians shift camp, which they often do every week or two, the men-folk start first, unencumbered but with their guns, and after making a track for ten or twelve miles, they mark out a spot for the next encampment, and then proceed on the chase till evening. The women with their families and dog-sleds, loaded with tent, bedding, and utensils, trudge slowly after, and on arriving at the intended camp, after clearing the snow, they strew

the space with pine branches and erect the tent. After arranging this by disburdening the sleds of their loads, they proceed to collect fuel for firing, and have all ready for a repast by evening, when the husbands return, bearing the produce of their hunt. If a large animal has been killed, the wives walk to the spot the next day to carry home the meat and hide. The men, however, now more than formerly take a share in the camp duties.

In Indian marriages it seems to be a part of the etiquette that the bride should show great reluctance to be wedded, till she has at times to be forcibly dragged from her camp. Her friends also may exhibit great opposition to the intended match; and yet this may be, in fact, only a part of the ceremony. Among some Indians it is understood to be absolutely forbidden to a mother-in-law to look her son-in-law in the face, at least until the birth of his first child. This does not seem to be enforced among the more northern Indians, but a son-in-law is looked upon as a sort of hunter for his wife's parents. Their daughter does not leave her parents' camp, and even after marriage appears to be more under their control than that of her husband.

As soon as a child is born, its parents usually drop their own name and assume that of the child; and this is continued a good deal, even in the case of baptised Indians; so that you may hear John's father or Jane's mother so spoken of, in preference to their own name. A wife, instead of speaking of her husband, will prefer to speak of her boy's father.

Polygamy was practised among the non-Christian Indians chiefly by the chiefs and leading men, and in the excuse that more than one wife was required by them, to dress their furs and skins, and carry their meat and effects, and do other camp duties.

In sickness the Indians are very pitiful. They soon lose heart, and seem to die more from despondency than disease. Their need is often not so much medicine as good nourishment and nursing; but this is hard to obtain. Food is often scarce even for those in health to seek it, and for a sick Indian it may be hard to find a friend in need. The constant removals are trying to the weak and infirm, and in times of distress those who cannot follow the band are left behind to perish. Indians have been known to devour their own children in cases of absolute starvation; but such instances are rare, and may, perhaps, be attributed to a temporary mania. Those who are believed to have perpetrated such an act are feared and shunned.

The dying are often hastily wrapped up and laid aside, even before the last sigh has escaped, for there is a reluctance to handle the dead. There is no fear of the resuscitation of the corpse, which is, for the most part, stiffly frozen as soon as removed from the camp fire. Chocolate is a favourite beverage with the sick where it can be obtained, and it is looked upon as a medicine. The Indians universally give it the name of ox blood, because it was mistaken by them for the blood of the musk ox when first they saw it used by the whites. Rice, which is called

white barley, is another luxury coveted by the sick. Flour is known by the Tukudh Indians as "ashes from the end of heaven." Tobacco is warmth or comfort, and the pipe the comforting stone.

All articles in use by the whites are named by the Indians without hesitation, according to their employment. A table is what you eat on; a chair, what you sit on; a pen, what you write with. A watch is called the sun's heart. A minister is with them the speaker, and a church the speaking-house. So a lion is called the hairy beast, and the camel the one with the big back. A bat is called the leather wing, because such is its appearance. Thus, an Indian is never at a loss for a name. A steamboat, before it was seen by the Indians, used to be called the boat that flies by fire; but since they have seen it, the fire-boat seems to be name enough.

The Indians are quick at learning by the eye, but slow if taught by the ear. Even in Christianity it is probable they would be better schooled by example than by precept. In the Tukudh language there is a different mode of expression used in speaking of the works of God, from that applied to the works of men, the former implying some sort of awe and reverence. Before the advent of whites or Missionaries, the Tukudh youth were advised by their elders to good behaviour, and they were warned not to be deceived by the garish pleasures of youth, but to remember a hereafter.

The Esquimaux have a tradition that in the first family in the world two brothers quarrelled, and the

one killed the other, and had afterwards to wander from his home and was lost. On the arrival of Europeans among them, the Esquimaux thought these might be descendants of the long-lost murderer. So far as the white men have come among them armed with the fatal fire-water, or other weapons of destruction, there may be only too much truth in this view. Europeans, however, seem to have returned the compliment by affiliating the Esquimaux upon ancient cave-dwellers in France and Switzerland, an hypothesis which appears nearly as arbitrary as the former one. The Esquimaux have still a word for a world above, and acknowledge that a system of religion was known to their forefathers, but say they have forgotten it. They seem to have some superstitious ideas connected with the sun.

CHAPTER X.

RESOURCES AND PROSPECTS.

It has been already said that the sole present trade in Mackenzie River is in furs. It may be asked what other resources the country presents. The leather derived from the dressed hides of the moose and reindeer is of some value, but at present nearly the whole of the leather obtained is used in the country for shoes and clothing. The reindeer in the woods and the fish in the lakes are somewhat abundant, but no more are killed than are required for provisions used in the country. Walrus tusks for ivory, and seal skins, and oil of both whales and seals, may be traded to a limited extent from the Esquimaux on the coast, but not in large quantities. Vegetable crops might be much increased in the country, but it is unlikely that these would be exported. For resources to be consumed in the country, agricultural produce will probably in the end prove the most reliable, notwithstanding the severe climate. Animal provisions seem always diminishing, and it is surprising what a vast expenditure of animal life is required to sustain even a very small population on meat only.

When a reindeer is killed, the meat of its ribs is cut off and dried, and this is usually the only part of the animal furnished to the trading establishments for

provision for the resident whites. These ribs form just one day's provision for one man, so that in one sense it may be said to require the life of a deer to sustain each man for a day. Then about 1,200 fish are required to feed a train of dogs for the winter, and the dogs are needed for hauling fresh meat, if not fuel. Altogether, with the sparsest of populations, there is an enormous expenditure of animal life every year in Mackenzie River for provisions. When to this is added the number of animals slaughtered for their fur, the total is very great. It is a country of death. It seems an instinct in an Indian to destroy every living animal he sees.

Little pains have yet been bestowed on the cultivation of the soil in Mackenzie River, but where patience and perseverance have been used, the result has been encouraging. The crops cannot be said to be altogether certain, but are dependent on the season. By working the soil regularly the frost seems to leave it. A considerable amount of provisions could no doubt be raised from the soil by real efforts at farming. It has sometimes been suggested that a penal settlement might be placed in Mackenzie River similar to those in Siberia, but such a scheme the scarcity of provisions forbids. The meat and fish are insufficient to support any considerable number in one place, and the crops could not be trusted for the support of a convict establishment with enforced labour, though hardy emigrants working with a will might force a livelihood.

The climate is not one to invite immigration on any

considerable scale, unless the half-breed or Indian population of the Sascachewan plains or adjacent country should retire to the north before the advance of civilised Europeans. It might, indeed, be more humane to the Indian population of the south to banish them to the unconstrained freedom of the northern forests, where they might still pursue the chase to which their instincts guide them, rather than to confine them to reserves of limited area and to farming pursuits, for which they are less fitted, and which often prove distasteful.

In case any further expedition should be organised with a view to reach the North Pole, it has been suggested that the mouth of the Mackenzie River would form a favourable basis of operations.

After laying deposits of provisions along the route in advance, sledge journeys on the ice might be arranged from the Mackenzie River toward the Pole, to be conducted not by English sailors but by those more habituated to rapid snow-shoe travelling and inured to Arctic cold.

The timber of Mackenzie River region is, doubtless, valuable, but would not pay the cost of exportation. When saw-mills are introduced, the lumber will be more used for building in the neighbourhood. Regarding the mineral resources of the district, it has been already said that gold has been found in the extreme west of it, on the Upper Youcon. This discovery may attract more population in that direction, and open a route from the Pacific coast,

which is certainly much the shortest distance from the ocean to the Mackenzie River country.

Formerly, trade was carried from Mackenzie River through the Rocky Mountains by the west branch of the Liard River as far as Dease Lake, and access from the west may hereafter be obtained to the Mackenzie River by the same route. The river is, however, difficult and dangerous for navigation, and impeded by numerous rapids. The route from Dease Lake to the western coast is also mountainous, and traversed in parts by mule trains only, which may forbid any heavy traffic by that route. The new route from the coast to the mines of the Upper Youcon runs more to the north than the one last mentioned. This road lies through the country of the Chilcats, a rather wild and murderous race of Indians, but who will probably be taught good manners by the miners, for whose protection an American gunboat has visited the coast. Other mineral resources may possibly develop in the country, but it is unlikely that any metal besides gold would pay the cost of exportation.

Communication with the south will probably soon be improved. The Inter-Oceanic Railway will probably extend branches northward sufficiently far to connect with the navigable rivers that run to the Arctic Ocean, and on these rivers steamers are already being placed.

Government mail communication, and some system of law and police, may be expected to extend, in the future, even as far as Mackenzie River, for the tide

of civilisation is ever flowing westward, and even a framework of civil political government may be added. The Mackenzie River Diocese alone is about as large as the peninsula of Hindostan, and it seems strange that so vast a region of British territory should be ignored, so far as respects Government supervision. A Government survey is already locating the boundary-line between the American country of Alaska and British territory ; and this may probably be followed by some custom-house authority, to regulate trade crossing the border.

Some Government aid towards education in the Mackenzie River country may be expected, and has, indeed, been promised, and toward the support of Missionary clergy some assistance may be hoped for from the older provinces of Canada ; but self-help must be the watchword, and an effort after independence and self-support should be made by all. To admit of any number of children being gathered for schooling, it appears essential that a Mission-farm should be set on foot to raise crops for their support ; and at all the Missions it seems desirable that an industrial lay agent should be associated with the clerical staff, both for the support of the Mission and to encourage the Indians to aim after more settled habits, and to attempt the cultivation of the soil. Farming and education are the two levers to be used, in subservience to a preached Gospel, for raising the Mackenzie River country to civilisation and improvement.

Probably the most striking impression conveyed to

the mind by the appearance of this country is that here we are brought into immediate view of stupendous natural works of the great Creator unsullied by human handiwork, undisguised by human artifice. Magnificent lakes, rivers, mountains, meet the eye, and these at one time buried under deep ice or snow, and chained with the iron grasp of winter, and at another time smiling in summer's glow and freedom, and flowing with melted streams. Few operations of the powers of nature are more forcible and striking than the binding back of the swift current of a mighty stream, in the severe frosts of early winter, and the loosing of these icy fetters on the return of spring. An equal contrast is seen in the congealing of the tossing waves of a large inland lake or of the Arctic Ocean. As the power of nature, so also the care of Providence, is exhibited to perfection in the far North, as shown by the safe protection and provision afforded to the wandering tribes, apparently helpless amid Arctic frost and snow.

In the huge carcases of the whales, and other marine monsters of the Arctic deep, and the swarming land animals of the northern wastes, nature and Providence seem to have been, in some respects, more lavish and prodigal in care for the sparse inhabitants of the far North than for the teeming populations of more favoured climates. Yet the provision is not in excess of the need, and in that forbidding climate both natives and European residents maintain a constant struggle to keep aloof the foe of famine, or in familiar figure of speech, to "keep the wolf from

the door." A restful trust in heaven's bounty will, however, lead to a cheerful content, even in the far North, and the fact that in God's Word, and especially in the Book of Job and in the Psalms, the regions of ice and snow are so vividly pourtrayed, will induce an Arctic Christian to acknowledge, and exult in the consciousness, that his God is still present with him there.

The Mackenzie River may be regarded as the Ultima Thule, and, in some respects, as the forlorn hope of Missionary enterprise; for no zeal can tame the elements, or soften the rigour of an Arctic clime. Still, however, the Gospel wins its triumphs amid Arctic snows, and shows itself sufficient for the comfort of the wanderer in the frozen North.

Russian Missions from the East, in connexion with the Greek Church, long since penetrated to the neighbouring country of Alaska, so that in the borders of Mackenzie River Diocese east and west may be said to join. Alaska having now fallen under the dominion of the United States, the work of its evangelisation is being taken up from thence, and the American Episcopal Church, with Presbyterians, Methodists, and Moravian Brethren, are already occupying Mission fields in Alaska, to the immediate west of the Diocese of Mackenzie River.

On the south border of the diocese, Mission work is also being zealously carried on in the province of British Columbia. The Society for the Propagation of the Gospel have supported a Missionary at the Cassiar Mines, near Dease Lake, and immediately

adjoining Mackenzie River Diocese on the south-west. A little further south again are the Church Missionary Society's stations on the Naas River and at Metlakatla.

In the adjoining diocese of Athabasca, Mission work is also zealously carried on in connexion with the same Church Missionary Society by the bishop and a staff of Mission clergy, as is also the case immediately to the eastward, on the shores of Hudson's Bay, in the diocese of Moosonee.

The Missions in Mackenzie River are therefore far from isolated when the continent of America s viewed as a whole, for similar Missionary efforts surround it on all hands, unless only to the frozen North. Yet within the diocese itself we speak of a Missionary being isolated when his nearest colleague may be 300 miles distant. Ten or a dozen Mission agents are but a small band to cover a country as large as Western Europe, for France, Germany, Italy, Holland, Belgium, and Switzerland could probably all be included in the space occupied by Mackenzie River Diocese.

The Mackenzie River Diocese need no longer be reckoned as a heathen country, for none of the Indian tribes therein refuse or oppose the Gospel, and they are all in the main under the instruction of Church of England Missionaries or Romish Priests, though they are by no means yet fully enlightened. The Esquimaux, though not yet Christianised, may be reckoned as also under instruction.

The staff of French Roman Catholic Missionaries,

including bishop, priests, friars, and nuns, exceeds that of the Church of England Mission. The numbers under the instruction of each Church may not greatly differ, but the adherents of the English Church Mission are most numerous in connexion with the Tukudh Missions. As the Missionaries in this diocese may be considered in the vanguard of the Christian Missionary army, their position is no dishonourable one, though their lot may be humble and their victories unfamed.

The Church of England Missionaries are not sworn, like those of Rome, to uphold the glories of Mary, or to support the falsehood of her Immaculate Conception, but they are engaged in the pioneer work of making straight in the desert a highway for their God, and in laying the foundation there of the spiritual and everlasting kingdom of Christ our Lord, who has been promised the utmost parts of the earth for His possession, and Whom all the ends of the world shall fear.

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